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of intramuscular injection of serum on the Dick reaction, determined before, simultaneously with and after the serum injection. The influence of milk, horse serum, etc., was similarly studied. He concludes that the Dick reaction is an allergy reaction, that Dick toxin is not a toxin in the exact meaning of the word. There is actually no such thing as the pseudo-Dick reaction and the control test with heated toxin is therefore superfluous. The significance of the positive or negative Dick reaction must be interpreted differently than at present. The so-called neutralization phenomena and the undoubted therapeutic action of scarlet fever serum is not referable to a specific antitoxin. The mechanism responsible is not yet clear, a specific inhibition of inflammation is probable. His conclusions, he points out, in no wise affect the value of modern scarlet fever prophylaxis, but they give it an entirely different interpretation.

Reliability of Dick Test for Scarlet Fever Immunity.—Progulski and Redlich applied the Dick test to children in two children's homes. Retested at the end of four months, thirteen of seventy-three children who were originally Dick negative had become Dick positive. Of the ninety children of another institution who were originally Dick negative, twenty-eight had become Dick positive at the end of fourteen months. Of 123 Dick positive children who were immunized with from 1,750 to 3,500 skin test doses in three injections, sixty-three reacted negatively, sixty positively after three months. Of twenty-two children who were given 8,000 skin test doses, nine reacted negatively after two months, thirteen were still positive. In a group of fifty children in whom an originally positive Dick reaction had been altered by treatment to a negative reaction, only nineteen preserved their negative reaction at the end of eleven months. In a second group of children who had kept their positive Dick reaction for three months after the last injection of the protective treatment, twenty-nine still reacted positively after eleven months, but in twenty-four a negative reaction was now obtained. The author noted that the control reaction of the Dick test does not correspond to the analogous reaction of the Schick test. The true reaction to native scarlet fever toxin and the pseudoreaction are hardly to be differentiated. Previous intramuscular injection of scarlet fever immune serum sometimes prevents the appearance of a reaction to heated scarlet fever toxin. The behavior of heated scarlet fever toxin in relation to neutralization by immune serum is often the same as that of native scarlet fever toxin. These are points of difference from the Schick pseudoreaction. The longer the scarlet fever toxin is exposed to heat, the fewer are the pseudoreactions and the greater is the percentage of the positive reactions. A uniform procedure, is necessary if the confusion in the interpretation of the Dick test is not to increase.

Münchener medizinische Wochenschrift, Munich

75: 207-248 (Feb. 3) 1928. Partial Index

"Blood Pressure Disease" and Its Treatment. G. Ganter.—p. 210.
*Illness and Death from Eating Fruit. W. Gros.—p. 212.
Character and Psychologic Mechanism of Drug and Alcohol Addiction. B. Hahn.—p. 215.
Origin of Infectious Diseases. O. Gleichmann.—p. 218.
Operation for Acute Appendicitis Complicated by Influenza and Pneumonia. H. von Seemen.—p. 221.
Treatment of Chronic Bronchitis and Complicating Asthma. Veilchenblau.—p. 222.
Phlebostasis Apparatus. A. Josephi.—p. 226.

Illness and Death from Eating Fruit.—Uninjured, ripe fruit can cause illness and death if it is introduced insufficiently masticated and in excessive amounts into a stomach not accustomed to receiving much fruit. According to Gros' experiments, cherries and gooseberries, which swell up in water much more than other kinds of fruit, are especially dangerous. The tendency to disturbances is increased by the individual disposition, the special sensitiveness of the child's intestinal apparatus and hot weather. Among the disturbances caused, gastritis, enteritis, gastro-enteritis, acute fermentation, and dyspepsia are less a menace to life than acute gastric dilatation and alimentary paralytic ileus. The reasons for sickness from eating unripe, moldy or spoiled fruit, and from taking large quantities of water with fruit, are discussed.

Wiener klinische Wochenschrift, Vienna

41: 149-184 (Feb. 2) 1928. Partial Index

Etiology, Prophylaxis and Serum Therapy of Infectious Diseases. R. Kraus.—p. 149.
Pericardial Adhesions. O. A. Rösler.—p. 153.
*Lumbago. S. Erben.—p. 156.
Liver Diet and Blood Condition. J. Pal.—p. 158.
Urologic Experience with the Albrecht-Ulzer Halogen Solution. F. Fuchs.—p. 160.
*Narcotic Effects of Smoking Tobacco Mixed with Potassium Chlorate. S. Dontas and P. Zis.—p. 161.
Blood Groups and Forensic Medicine. K. Meixner.—p. 163.

Lumbago.—The most frequent cause of lumbago is lumbar strain. The disease involves one or more joints and may extend to the sacro-iliac articulation. This region is then painful on pressure, and thickenings are frequently found outside the muscle substance, which can be verified in the radiograph. The most effective treatment is rest in bed for from eight to fourteen days in a well-warmed room and with cutaneous counter-irritation. The author uses some suitable ointment or an alcoholic fomentation (linimentum capsici or mustard plaster) placed over the lumbar region with some source of heat over it for two or three hours every day for about two weeks. Warm full baths are to be avoided. A flannel binder should be worn during the attack and for a month afterward. If the pain is not gone after two weeks, protein therapy is begun.

Narcotic Effects of Smoking Tobacco Mixed with Potassium Chlorate.—The smoking of tobacco mixed with potassium chlorate has an intoxicating effect. In their experiments, Dontas and Zis mixed from 1.5 to 2.5 Gm. of potassium chlorate with a pipeful of tobacco.

Acta Dermato-Venereologica, Stockholm

8: 227-311 (Dec.) 1927

Keratoderma Following Gonorrheal and Nongonorrheal Joint Diseases. W. Lojander.—p. 227.
Histology of Unilateral Sebaceous Nevus (Epitheliomatosus) of the Head. S. Ostrowski.—p. 255.
*Hemorrhagic Encephalitis Occurring During Treatment with Neoarsphenamine. H. C. Gjessing.—p. 268.
Marriage of Syphilitics: Scandinavian Legislation. Schindler.—p. 275.
*Meinicke's Third Reaction (Latest Modification) and Vernes' Reaction. H. Boas.—p. 286.
Vegetative Nervous System in Fox-Fordyce's Disease. T. Chorazak and S. Ostrowski.—p. 298.

Hemorrhagic Encephalitis Occurring During Treatment with Neoarsphenamine.—A man severely infected with syphilis received four injections of neoarsphenamine in doses beginning with 0.15 Gm. and rising to 0.6 Gm. On the third day after the fourth injection, he developed suddenly the classic symptoms of hemorrhagic encephalitis or "serous apoplexy." The clonic convulsions were succeeded by a state of coma, which lasted several days. Under treatment with epinephrine, the patient recovered and the neoarsphenamine injections were continued without mishap, but always with simultaneous administration of epinephrine.

Meinicke's Third Reaction and Vernes' Reaction.—Boas tested 1,205 serums for both the latest modification of Meinicke's third reaction and the Wassermann reaction. The results with the Meinicke test proved but little inferior to those with the Wassermann test. The difference between the results of the two reactions was seen chiefly in cases of latent syphilis. Here the Wassermann reaction was positive in forty-two serums in which the Meinicke reaction was negative; while in only two serums was the latter reaction positive when the former was negative. The reading of the Meinicke reaction is much too difficult for the practicing physician. Vernes' reaction ("syphilimetry") was similarly tested against the Wassermann reaction in 1,003 serums. The Wassermann reaction proved slightly more sensitive in primary syphilis and latent congenital syphilis, and decidedly more sensitive in tabes, general paralysis and latent syphilis. In secondary and tertiary syphilis the results with both methods were equal. Vernes' method gave particularly good results in the control cases. Moreover, in some cases of latent syphilis, the Vernes' reaction pointed more or less strongly to syphilis, when the Wassermann was negative.

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COOPERATION IN MEDICAL EDUCATION AND MEDICAL SERVICE

FUNCTIONS OF THE MEDICAL PROFESSION, OF THE UNIVERSITY AND OF THE PUBLIC *

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CHICAGO

I am sure that it will be interesting and profitable at the opening of our three days' session to review the changes that have taken place in medical education in America in the last twenty-five years, the result of the effort made by the organized profession of this country, the American Medical Association, to elevate the standards of medical education and place it on a thoroughly sound and satisfactory basis. This whole movement owes its success primarily to the thorough reorganization of the American Medical Association which in 1901 converted the Association into an effective representative body covering the entire country and the entire medical profession, functioning through a house of delegates which meets annually, and through a board of trustees and executive officers who function throughout the year. To no one man is more credit due for bringing about this great reorganization than to Dr. George H. Simmons, Editor Emeritus.

The year after this reorganization, 1902, at the Saratoga session, the late John A. Wyeth, then President, appointed a committee on medical education to study the whole situation and to bring in a report the following year. This committee studied the problem with a good deal of care and brought in a report recommending that in the absence of national governmental control, which never could be possible, as the Constitution of the United States left the function of education entirely and permanently in the hands of the individual states, a national influence and control of medical education, which was obviously a necessity, had best be assumed by the American Medical Association. For this purpose the committee felt that a considerable degree of permanence should be given to a committee or council on education and that sufficient funds should be appropriated to carry on the work. This report was approved, but the trustees did not see their way clear at that time to appropriate the $5,000 asked for by the committee.

In 1904, this committee on education, of which I was chairman, brought in a report recommending an addition to the By-Laws creating a council on medical education consisting of five members, one to be appointed each year by the President of the Association and to serve five years, and asked also for an appropriation sufficient to employ a permanent secretary. This report was adopted and the Council on Medical Education created.

The first Council consisted of:

Victor C. Vaughan, dean of the University of Michigan Medical School.

William T. Councilman, professor of pathology, Medical School of Harvard University.

Charles H. Frazier, professor of surgery, University of Pennsylvania School of Medicine.

J. A. Witherspoon, professor of medicine, Vanderbilt University School of Medicine.

Arthur Dean Bevan, professor of surgery, Rush Medical College (University of Chicago).

The council approached its work with a great deal of energy and enthusiasm. It was given a perfectly free hand by President Musser, who had appointed the members, and was given every encouragement and support by the Board of Trustees and by Dr. Simmons, the Editor of the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION. THE JOURNAL proved to be of the greatest possible service in this movement. It was able to give the necessary publicity to the work of the Council, bringing it before the entire medical profession, the medical schools, the state licensing boards and the public. It was soon found that, although the Council did not have any legal powers, when sound suggestions were made to elevate the standards of medical education and these suggestions were presented to the profession through the columns of THE JOURNAL, they were quite as apt to be adopted as though they were legally required. This, of course, was largely due to the splendid cooperation given by the medical schools, the state licensing boards and the medical profession as a whole.

EARLY STANDARDS

Early in our work we found that the existing conditions of medical education in this country were unsatisfactory as compared with those in England, Germany and France. We found in 1905, when the Council held its first conference on medical education, that some of the American medical schools had made marked advances in the previous twenty years; that is, in the period from 1885 to 1905.

There were already five schools that required two or more years of a preliminary training in the university before entrance to the medical school. These were:

Johns Hopkins, effective in 1893.
Harvard, effective in 1900.
Western Reserve, effective in 1901.
Rush, University of Chicago, effective in 1904.
University of California, effective in 1905.

* Read before the Annual Congress on Medical Education, Medical Licensure and Hospitals, Chicago, Feb. 6, 1928.

The Council was agreed that American medical education must be made equal to that required by England, Germany and France; i. e., a five-year course. This would comprise:

1. A preliminary education sufficient for entrance to our standard universities.
2. Five years in medical work, the first year to include physics, chemistry and biology; two years in the laboratory sciences of anatomy, physiology, pathology and pharmacology, and two years in clinical work, with the last year arranged in such a way as to bring the student in contact with the patient at the bedside.
3. The passing of an examination before a state licensing board.

It was evident that such a requirement could not be enforced at once throughout the entire country. The Council therefore agreed to advocate as a temporary standard the following minimum requirement:

1. Preliminary education of four years at high school.
2. A four-year medical course.
3. Passing a satisfactory examination before a state licensing board.

THE IDEAL STANDARD

In the same year, 1905, the Council, in a report to the House of Delegates, adopted as the "ideal standard," which it desired to bring about in this country:

1. Preliminary education sufficient to enable the candidate to enter our recognized universities.
2. A five-year medical course; the first year devoted to physics, chemistry and biology; the next two years to laboratory sciences of anatomy, physiology, pathology and pharmacology, and two years to the clinical branches, with close contact with patients in both dispensary and hospital.
3. A sixth year as an intern in the hospital.

It can be seen, therefore, that from the very beginning of its work the Council had a definite objective to work toward, which has been reached, i. e., the American standard of medical education, which has finally been brought about through the cooperation of the American Medical Association and the universities. The universities have, and I think very properly, taken the position that the year of physics, chemistry and biology should not be taught in the medical school but in the scientific department of the university, and they felt that it would be better to devote two years to these subjects instead of one, and attempt in these two years to furnish also a reading knowledge of French or German, some English and other electives. This has resulted in an American standard of medical education of which we may very well be proud, as it is equal to that of any other country of the world.

With this requirement, the American medical student devotes more years to his complete education than the students in any other country. Beginning at 6, he is eight years in the primary school, four years in high school, two years in the university, four years in the medical school, and one year or more in the hospital as an intern—nineteen years in all. This would make the normal medical graduate about 25 years of age, if no interruptions occurred in the course of his study. As a matter of fact, our students have been completing the work at an average age of from 27 to 28, with the hospital intern year included. This, however, is being gradually reduced by the efforts of the universities and high schools to cut off one or two years of work in the primary and secondary schools. This effort is now producing definite results.

CLASSIFICATION OF MEDICAL SCHOOLS

After first establishing a standard of medical education toward which it might work, the Council turned its attention to ascertaining the existing conditions in regard to medical education. The first piece of valuable evidence proved to be the information on medical students and examinations before the state boards, accumulated by Dr. George H. Simmons and published in the educational number of THE JOURNAL for several years. These statistics gave the number of students examined before the various state boards, the colleges from which they came, and whether they passed or failed. We at once grasped the importance of these facts and on the basis of the reports of the state examining boards for 1904, published in THE JOURNAL, May 6, 1905, we developed tables dividing the medical schools of the country into four classes based on the percentage of failures before the state boards:

Class 1, with less than 10 per cent of failures.
Class 2, with from 10 to 20 per cent of failures.
Class 3, with more than 20 per cent of failures.
Class 4, unclassified colleges in which there were less than ten graduates or most of whose graduates were licensed by their own home state board or in which we felt that the evidence was insufficient to permit conclusions.

The percentage of failures of its graduates before the state boards did not tell the whole story about a medical school, but the publication of these tables in THE JOURNAL had great influence in urging the medical schools to put their houses in order.

I remember as well as though it were yesterday, although it was twenty-two years ago, that when I presented these tables I said, "It is evident from a study of the medical schools of this country and their work that there are five especially rotten spots which are responsible for most of the bad medical instruction. They are:

Illinois with fifteen medical schools.
Missouri with fourteen medical schools.
Maryland with eight medical schools.
Kentucky with seven medical schools.
Tennessee with ten medical schools.

That is, fifty-four medical schools in these five states and not more than six of these can be considered acceptable."

These startling figures led to an immediate and drastic reform. As the Council continued to study the problem, it soon became evident that the most important piece of work to be done by the Council was to make a personal inspection of the more than 160 schools; to ascertain the character of their plants, of their work and of their faculties, and in general their fitness to teach medicine, and to mark them as one might in giving a civil service examination. This was a large and onerous task. The country was divided into sections, and each one of the 160 or more schools was visited by some member of the Council or by the secretary, Dr. Colwell; in most instances by both the secretary and some member of the Council.

The schools were marked on ten points, making a total of a possible 100 and graded in three large groups:

Class A, those marked above 70, the acceptable class.
Class B, those marked from 50 to 70, the doubtful class.
Class C, those marked below 50, the nonacceptable.

The ten points on which the schools were marked were the following:

1. Showing of graduates before state boards.
2. Requirements of preliminary education and its enforcement.

3. Character of medical curriculum.
4. Medical school plant.
5. Laboratory facilities and instruction.
6. Dispensary facilities and instruction.
7. Hospital facilities and instruction. (These last three necessarily included the men giving this instruction.)
8. Extent to which the first two years are officered by men devoting entire time to teaching and also evidence of original research.
9. Extent to which the school is conducted for the profit of the faculty directly or indirectly, rather than for the teaching of medicine.
10. Libraries, museum, charts and teaching equipment.

This scheme may today seem somewhat crude, and yet it was of great value at the time and furnished us with a sound practical basis on which to grade the schools. In making this inspection, the Council was very lenient in its markings.

Twenty years ago I presented this first classification, to the third annual conference, held in Chicago, April 29, 1907. This report was also furnished the state licensing boards and the medical schools, and the schools below standard were given a reasonable time to bring themselves up to standard. This inspection showed that, of the 160 schools,

Eighty-two were in class A, with marks above 70 per cent.
Forty-six were in class B, between 50 and 70 per cent.
Thirty-two were in class C below 50 per cent.

IMPROVEMENT IN MEDICAL EDUCATION

As a result of the report of this first inspection a great wave of improvement in medical education swept over the country. Fifty schools agreed to require by 1910, or before, at least one year of university physics, chemistry and biology and one modern language as a preliminary education before matriculating in medicine. Immediately a number of consolidations were arranged in many cities having several schools. A number of schools, as the result of state boards refusing examinations to their graduates, went out of business and it became evident that the 160 schools would be reduced within a short time to probably less than a hundred. By the time of the report of the second inspection, in 1910, the number of schools had been reduced from its high water mark of 166 to 126, a reduction of forty, almost 25 per cent.

When we began our first inspection there were seven medical colleges in Louisville, Ky. I received a letter from one of my good friends in Louisville one day, telling me not to come to Louisville because all the medical schools had agreed not to allow themselves to be inspected by the Council. I wired at once that Dr. Colwell and I were leaving for Louisville that night and desired to inspect the schools the next day. With true Southern hospitality they received us and gave us every opportunity to inspect their schools. They gave us a luncheon at the Pendennis Club. We discussed the subject of consolidating all the medical schools of Louisville into one strong school, which might then secure the united support of the medical profession and the citizens of Louisville and secure the use of the Louisville Hospital as a hospital for teaching and research; this was finally agreed to and finally carried into effect, so that today Louisville has a single school much stronger than any of its predecessors and enjoys the benefit of excellent clinical material. The same story was repeated in many cities of the country.

When this work began there were twenty homeopathic schools and ten eclectic schools in this country. These furnished the Council on Medical Education with a difficult problem. They were really not within our jurisdiction and yet they could not be ignored. They submitted to inspection on request, as did the regular schools. Some of them were distinctly better than some of the regular schools; they were treated with absolute fairness by the Council. It early became apparent that as soon as the one year, and then the two year university requirement of physics, chemistry and biology was generally adopted, homeopathy and eclecticism would die for the lack of students, and this proved to be the case. State universities with both a regular and a homeopathic medical department all found that as soon as the premedical requirement of university physics, chemistry and biology went into effect the homeopathic school died. Today there is practically no strictly homeopathic school in this country. The one or two which have survived teach scientific medicine. The one remaining eclectic school is struggling to reorganize on a better basis.

The Council early sought the cooperation of the universities of the country and accepted the conclusion that the future American school of medicine must be the medical department of a university. Rapidly the better medical schools sought affiliation with universities and have for the most part become in fact university medical departments. Gradually the university has exerted more and more influence on and control of medical education, and this is most fortunate. It would, however, be unfortunate if this control was ever used to exclude the influence and control which should be exerted on medical education by the medical profession itself. The interest and cooperation of the medical profession is absolutely essential to the development of the best type of medical education and medical practice.

As the work of the Council developed, it occurred to some of the members of the Council that, if we could obtain the publication and approval of our work by the Carnegie Foundation for the Advancement of Teaching, it would assist materially in securing the results we were attempting to bring about. With this in mind we approached President Henry S. Pritchett of the Carnegie Foundation, presented to him the evidence we had accumulated and asked him to make it the subject of a special report on medical education to be published by the Carnegie Foundation. He enthusiastically agreed to this proposition.

He was fortunate in the selection of the man to make this report, Abraham Flexner, who had a wide knowledge of general education and a genius for this sort of work. The Carnegie report on medical education in the United States and Canada by Abraham Flexner, published in the spring of 1910, came at a most opportune time to help, and help very materially, in the big job which the American Medical Association had undertaken of elevating the standards of medical education in this country and placing our American medical schools on a sound basis. This report from a great educational foundation, confirming in every way the findings of the Council on Medical Education and criticizing the weaknesses of our medical colleges more severely than the Council had done, urging reforms along the same lines, i. e., the development of our medical schools as organic departments of our universities, the dictum that the proprietary school had no longer a right to exist, the necessity of university training in physics, chemistry and biology and modern languages before beginning the medical course, the necessity of having the laboratory sciences of anatomy, physiology, pathology and pharmacology taught by full-

time men, the necessity of a teaching hospital and dispensary for the teaching of the clinical subjects, the importance of bedside instruction—all of this and more, brought out with great clearness and emphasis in the Carnegie report, strengthened the medical association and state boards in their fight for higher standards. Year after year, rapid progress continued to be made. By 1915 the number of medical schools was reduced to ninety-five:

Sixty-six in class A.
Seventeen in class B.
Twelve in class C.

In 1920, the number of schools had been reduced to eighty-five:

Seventy in class A.
Seven in class B.
Eight in class C.

In 1927, last year, the number had been reduced to eighty:

Sixty-two class A schools teaching the full course.
Nine class A schools teaching the first two years of medicine.
Three class B schools.
Six class C schools.

In this rapid elevation of the standard of medical education with the increase in preliminary requirements and greater length of course, and with the reduction of the number of medical schools from 160 to eighty, there occurred a marked reduction in the number of medical students and medical graduates. We had anticipated this and felt that this was a desirable thing. We had an oversupply of physicians in the country and a great oversupply of poor and mediocre practitioners. We had one physician to about every 600 inhabitants. At the high-water mark we had 166 schools, 28,142 medical students and 5,742 graduates; this was in 1904. In 1919 these figures fell to a little more than eighty schools, 13,052 medical students and 2,529 graduates in the year 1922, this being the small graduating class which entered the medical schools in 1918, the war year.

Since that low point there has been a steady healthy increase in the number of students and the number of graduates. This year, 1928, the number of students has increased to 20,367 and the number of graduates to 4,300, and we still have one physician to about each 700 inhabitants. The number of students is now increasing from 700 to 1,000 each year and the number of graduates accordingly. There is now no doubt that the medical schools of the country can supply the necessary number of well trained medical men, and they can be expanded to meet any increased demand that may occur. There is an uneven distribution of physicians. There always has been and there always will be. There is a great movement of all classes of people from the country to the cities, and in this movement the physicians have taken an active part, and there are, of course, small towns which cannot attract or support a phyiscian which are without one today. The fundamental facts which bring about this situation have nothing to do with medical education, and the suggestion which has been made that this condition should be met by lowering our standards of medical education, which are now on a par with the other great countries of the world, to a preliminary high school education and three to four years of a medical course cannot be entertained seriously.

There is a steady increase in the number of medical students and graduates. There is a splendid improvement in the quality of the new graduates. There are better roads and hospitals and automobiles being built, so that today everywhere in this country the people are obtaining better medical care than ever before. The question of uneven distribution will be solved as far as it can be solved by the economic, social, climatic and other influences which control the lives of men, but it will, of course, to a certain extent always remain with us. It certainly would not be influenced in any way by training up a poor grade of physicians.

NEED OF COOPERATION

The fight for higher standards of medical education has been won. It has been won by the united efforts of the American Medical Association, the Federation of State Medical Licensing Boards, the Association of American Medical Colleges, the American universities and colleges, the great educational foundations, the Carnegie Foundation for the Advancement of Teaching, the Rockefeller Foundation and the General Education Board. This great educational advance, the greatest that has occurred in any field of education in the last twenty-five years, is a wonderful example of what can be accomplished by the right sort of cooperation of the forces vitally involved in a great problem; but there remains much to be accomplished, and this must be accomplished by securing the same sort of cooperation in the future development of medical education.

Medicine has become one of the greatest functions of modern civilization. It is in everyday contact with every individual in every community. Without modern scientific medicine, without modern public health service, our modern civilization would soon cease to exist. Great cities, such as London, New York, Paris and Chicago, would be impossible. They would soon rot away under great plagues as the larger centers of population did in the middle ages. Medical education and medical practice are not functions of the university and the medical profession alone, they are functions of modern civilization in which the entire community is vitally interested.

In order to secure, therefore, the best medical education and the best medical practice, both preventive and curative, it is necessary to secure the support and cooperation of the medical profession, of the universities, and of the community in bringing about such a result. Medical education cannot be left safely in the hands of the medical profession alone. Our experience in America in the last forty years, which I have just reviewed, has clearly demonstrated this. Medical education has been turned over by the great reorganization of the last twenty years largely to the universities; and we all feel that this is the best solution. But it is very evident that the medical school cannot be safely left in the hands of the universities alone; something more is needed. Uprooted from the medical profession, uprooted from the community and transplanted to the scientifically prepared soil of the university campus, the medical school will lack those things which the medical profession and the community alone can give.

What is the right solution of our problem? It is very simple. The great function of medicine can be developed in the best way only by the cooperation of all the factors involved, the community, the medical profession and the university. Our real problem of the next ten years is to bring about this cooperation. We must not permit a line of cleavage, a schism, to develop between the medical profession and the medical teachers in our university schools of medicine. There is already danger of this. They must work together

for a common purpose. We must not allow our universities to build and conduct hospitals for the primary purpose of teaching medicine. We must bring about a situation wherein the communities will build and conduct hospitals for the proper care of the sick, and the best of these will be used as teaching hospitals. No hospital should ever be built unless its primary purpose and function is to care for the sick.

We should attempt to secure such cooperation between the university and our great hospitals and the medical profession that, working in harmony and together, they will build up at each university medical school a great medical center consisting of a group of hospitals, a great general hospital, special hospitals and dispensaries, public health and infant welfare work; a great medical school plant with laboratory and research and teaching facilities for the purpose of doing at least three things:

1. Securing for the people the great possibilities of modern scientific medicine.
2. The teaching of medicine.
3. Medical research.

In building up such a great medical center each one of the three vitally interested and essential factors must do its part. The university should furnish the location; such a great medical center is best grouped around a university. The university should also furnish the medical school plant and research laboratories and the medical faculty engaged in the work of the laboratory sciences of anatomy, physiology, pharmacology and pathology. The community should build and maintain the great group of hospitals and dispensaries and conduct them primarily for the purpose of providing the best medical and surgical care for the patients that enter their doors. The medical profession should provide the attending medical staff for these hospitals and dispensaries. These attending men should be the leaders of the medical profession in their special fields. They should be nominated by the university and be university professors; and they should carry on three functions:

1. Clinicians taking care of the sick.
2. Teachers of medicine.
3. Research workers.

It is of great importance that these clinical teachers retain their normal relations to the community and the medical profession and retain their full freedom to serve as great consultants and as great specialists in their special fields.

The medical educator who sees the future of medical education as a purely university affair, with its clinical teaching conducted in a university-owned hospital, heavily endowed and filled only with charity patients, and officered by full-time salaried men, with the hospital with its patients and the laboratory with its frogs and guinea-pigs, conducted along the same scientific university ideal lines without any contact with the medical profession and the community, surely has no vision and no place in the future development of medical education in this country.

I am very optimistic as to the outcome. I am sure that we shall find the best solution of the great problem which confronts us today. I have every confidence that we shall be able to secure in every state of this great union the necessary cooperation between the public, the profession and our great universities which will bring medical education and medical practice in this country to their highest state of efficiency.

122 South Michigan Avenue.

MODERN PRECEPTORSHIPS

THE VALUE OF ASSOCIATE TEACHING CENTERS IN CLINICAL TEACHING *

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"I will impart a knowledge of the art to my sons and those of my teachers and to disciples bound by a stipulation and oath according to the law of medicine but to none others" states the Hippocratic Oath. Our own social organization differs widely from that in which this oath was formulated. The factory has replaced the trade guild, standardized quantity production for the average, works of art for the individual. Skill of eye and hand, skill in the choice of means in the midst of complexity, skill in personal service are, however, as essential in medical practice today as they were in ancient Greece. The preservation of medicine as an art requires close association of master and apprentice. The pedagogic obligations of the Hippocratic Oath are not outgrown.

In the endeavor to improve medical education in this country, its control has passed from the medical profession to the universities, from an emphasis on art to an emphasis on science. The science is essential as a basis for the art. Fundamental training in the science can be well given only at the universities. The art cannot, however, be well taught if the teachers of science at the university do not work in cooperation with and have the hearty cooperation of those who are actively practicing medicine as an art. To the degree that the universities now in charge of medical education fail to seek such cooperation, they are likely to fail in teaching the art. So far as the organized profession fails to give its cooperation in every practical way, it is remiss in one of its most time honored obligations.

The problem of active cooperation between pedagogue and practitioner in teaching the art of medicine is far from simple. The talks in the buggy as Dobbin trotted leisurely along after a visit were among the most valuable features of the old preceptor days in this country. Dobbin has been replaced by the automobile. Leisure to philosophize has been largely replaced by the rush of modern life, general self-sufficiency by specialized dependence on organization, independent general practice by an increasing dependence on the hospital, the laboratory and the specialist.

The family practitioner has been, is now, and promises to continue to be the most important agent in applying medical science to individual needs. It has recently been estimated [1] that a good general practitioner is capable of handling 90 per cent of the illness for which patients seek medical advice. To be a competent family practitioner, however, a man must be trained not only to recognize and treat the diseases that fall within this group but also to recognize the diseases that fall without this group and to know where to seek proper aid for patients suffering from them. While recognizing that the percentages given are merely rough approximations, it might be said that the general practitioner can at best be only a 90 per cent independent under present conditions and at the same time be competent.

* Read before the Annual Congress on Medical Education, Medical Licensure and Hospitals, Chicago, Feb. 7, 1928.

1. Preliminary Report of the Committee on Medical Education, January, 1927.

To be competent to treat the 90 per cent of illness coming within the range of general practice, the student must first of all be given such a training in the principles of the fundamental sciences on which medicine is based as to give him a scientific background on which to base his art. This scientific background should not be a static one but a dynamic one capable of growth. For this scientific training we must depend on specialists in science. In the medical school, however, we should expect the teachers in the preclinical branches in courses intended to prepare men for general practice to present the various sciences not as highly technical isolated sciences but as parts of an all round knowledge of the anatomy, physiology, pathology and hygiene of man.

The basal training in clinical medicine must also be given largely from the scientific standpoint of general principles. For this we must depend mainly on specialists in clinical teaching, with time and facilities lacking to those active in general practice. Such specialists should, however, present their subjects as parts of, not as apart from, clinical medicine as a whole. They must keep in active touch with preclinical science on the one hand, and on the other hand with the art of applying scientific knowledge to the diagnosis, treatment and prevention of disease.

In the training of students in the art of medicine, close association of student and teacher is essential. The student learns to diagnose by being made responsible for making diagnoses, to treat disease by being made responsible for the care of patients, to command the respect and confidence of the sick by the opportunity to earn it. The more responsibility the student is given, the closer must be his association with the teacher. This close association is essential for the student that he may learn by accurate observation of example. It is essential for the teacher, because the responsibility for the patient which he transfers to the student does not lessen his own clinical responsibility but rather increases it. The main problem in medical education from the standpoint of the practice of medicine comes at the period when the student is beginning to assume clinical responsibility. It is the problem of adequate opportunity and competent supervision. In our present medical curriculum it comes in the fourth year of the medical course, preceding the intern year.

Interns are assigned to institutions, not to individuals; they are house officers rather than clinical apprentices; they are given clinical responsibilities which they should be prepared to meet with modest self-confidence. They are likely to meet their share of the hospital's responsibility for the patients best if they have first learned to share the personal responsibility of a physician for his patient. They are likely to profit most from institutional responsibilities if they have first learned something of individual responsibility. Between the mechanism of the educational machine and the mechanism of institutional medicine, the student needs a breathing spell in a more personal atmosphere. An art requires heart as well as head. The art of medicine requires some knowledge of the personal surroundings of the patient as well as of the physical condition of his interior. For a period, at least, before it is too late, the relation of teacher to pupil and of both to patient should be along the lines of the small boy's definition of a friend—"a feller what knows you but likes you." We need a return of the private practitioner as personal preceptor in medical education.

To some extent this need has been met by the voluntary association of a student with a practitioner during summer vacations, especially during the one between the third and fourth years. At several universities, opportunities for this have been encouraged. At others, elective work during the fourth year has offered some opportunity for close relations between physician and student. The best methods of meeting the need of the personal equation in clinical education will doubtless vary with the institution. Without entering on an extended discussion of the general subject, I shall confine myself here to a description of the way in which we are trying to meet the problem at Wisconsin.

The first step in this direction was to individualize the fourth year of the medical course by omitting all class work. The first year of the course is devoted essentially to anatomy and physiology, the second year to pathology and hygiene, the third to the elements of clinical medicine.

By condensing class work into the first three years of a four year medical curriculum, the fourth year of the course is left free for individual work under supervision. The fourth year extends from the end of the third year until graduation the following June and comprises forty-eight weeks divided into four quarters of twelve weeks each period. The class is divided into four sections, and different work is assigned to the members of each section. During the year, however, the students in each section complete essentially the same work. Only one or two students work at a given time under a given instructor. In this way close personal relations are established, and the student can be allowed considerable responsibility because the instructor has the work of only one or two to supervise.

Of the four quarters, this year as last, one is called a medical quarter, one a surgical quarter, one a general quarter, and one a preceptorial quarter.

During the medical quarter each student spends six weeks in the wards of the Wisconsin General Hospital under the supervision of a member of the medical staff, three weeks at the Mendota State Hospital for the Insane, and three weeks at the Children's Hospital and at a dermatologic clinic in Milwaukee.

During the surgical quarter each student takes work under the supervision of the surgical staff at Madison in general surgery and in the surgical specialties.

During the general quarter each student spends from two to three weeks in the obstetric service of the Chicago Lying-In Hospital (thanks to the courtesy of the directors and of Dr. De Lee), two weeks in studying methods of public hygiene under the auspices of the state and city health departments, two weeks in making physical examinations of students entering the University of Wisconsin, and the remainder of the time in elective work. It is planned next year to establish a second preceptorial quarter in place of this general quarter and to distribute the work of the general quarter among the other quarters.

The preceptorial quarter, this year as last, comes in the last half of the year, either from January to April or from March to June. With the establishment of a second preceptorial quarter, the preceptorial work will be extended throughout the year. During the preceptorial quarter, a student elects work under the general supervision of an approved preceptor who is in a position to provide the student with suitable hospital, laboratory and library facilities for effective work on his service and that of his associates. The supervising preceptor may select such associate and assistant preceptors as he believes will add to the welfare of the student during his service with him.

The establishment of this preceptorial service has led to the organization of teaching centers in various parts of the state for cooperation with the medical school of the state university. There are within the state numerous medical centers with well organized hospitals and group clinics admirably suited for advanced undergraduate clinical teaching of the type outlined, practical work under close supervision and careful study of individual patients. Since we are just beginning clinical teaching, it has seemed best to limit the number of students in a class. Thus, last year only twelve or thirteen students were on this extramural service at a given time, and this year we shall have only fifteen. There are at present more extensive facilities of promise for the preceptorial work than students to accommodate. We have had to make a selection in establishing associate teaching centers. In making our choice we have been guided by the reputation of the clinical centers selected for proficiency and idealism in medical practice, by the willingness of the leaders at these centers to cooperate in the work, and by the personal desires of the students entering on the service. We are certain that there are other centers than those chosen equally capable of offering good training to the students, and we anticipate an extension in the number of such centers as our work grows. Thus far our students have worked at eight different associate teaching centers, all situated in cities of between 6,000 and 30,000 inhabitants.

Institutions are of value in education merely to the extent that they reflect the personality of the teachers. The organization of an institution requires leadership. Such leadership is shown by an active part taken in the organization of a hospital so as to give it recognition by the American Medical Association and the American College of Surgeons; it is shown by an active part taken in the organization of a group clinic or of a less formal association of physicians for cooperative practice; it is shown by an active part played in county, state and national medical societies. The men invited to organize associate teaching centers have all been men of this type. The organizer is called the preceptor in charge. This preceptor is made responsible for arranging the work of the student assigned to him for the quarter. He may select such associate and assistant preceptors to aid him in supervising the work of the student as he may desire. These associate and assistant preceptors are usually men associated with the preceptor on the hospital staff or in the group clinic, or both. In one instance a very effective associate preceptor was on the staff of a hospital not in the city in which the preceptor lived but in a neighboring city.

Since only one or two students are as a rule sent at a time to an associate teaching clinic and several associate preceptors are available for each student, the supervision of the students' work may be organized in such a way as not to constitute a burden on any member of the group. The general directions for arranging the work of the student are as follows:

1. A clinical apprentice is expected to be engaged along specified lines of work for five hours each week day, in ward work, clinical work, laboratory work, or in other work which puts him into immediate contact with patients or with procedures taken for the direct welfare of patients. This work should so far as possible be designed to give the apprentice an opportunity to be useful to others as well as to obtain a training personally beneficial.

2. At least half, and preferably more, of the practical work of the clinical apprentice as outlined should be devoted to general medicine or to general surgery from the medical standpoint. The balance of the time may be devoted to obstetrics if such service is available, and to one or more of the specialties with special reference to the problems of general medicine and surgery.

3. The time of the clinical apprentice should not be dissipated by permitting him to undertake work in more than two fields at a given period. Thus, if a student under the preceptorship of a general surgeon has major work in general surgery, he may work for a certain number of hours each day or every other day under the direction of a second or associate preceptor in urology, but so long as he does this he should not be assigned any further specified work in any of the specialties. Thus, if he desires to devote more time to obstetrics, he should give up the specified hours with the urologist while on the obstetric service.

4. While on a given service, the clinical apprentice is expected to aid in history taking, in making physical examinations, in the laboratory work and in such other ways as may be for the welfare of the service and beneficial to his own education.

5. When not on specified duty, the clinical apprentice is expected to do a large amount of reading and study, in part in direct connection with the cases seen while on service, in part along general lines designed to broaden his view of the field of medicine to which his work is related.

6. While on a given service the clinical apprentice should write up a case or group of cases with special care, at least once a month. Copies of these reports should be filed at the office of the medical school in Madison.

7. At the end of the three months' apprenticeship, the clinical apprentice is expected to submit to general examinations in the fields of work to which his services have been devoted and also to write a general report of the work which he has done and the benefits received.

The following outline represents the type of schedule of work which a clinical apprentice may be expected to follow while on service:

John Smith, preceptor, general surgery.
James Brown, associate preceptor, urology.
William Jones, associate preceptor, obstetrics.
Thomas Robinson, associate preceptor, pediatrics.

First Month:

8-10:30, daily, on duty in wards and laboratories in the service of John Smith and his immediate associates and assistants.

2-4:30, Mondays, Wednesdays and Fridays, on duty at the office of John Smith or in the hospital.

2-4:30, Tuesdays, Thursdays and Saturdays, on duty at the offices of James Brown or in the hospital.

Second Month:

8-10:30, daily, in the service of John Smith.

2-4:30, daily, in the service of William Jones. Also subject to call at other hours.

Third Month:

8-10:30, and 2-4:30, Mondays, Wednesdays and Fridays, in the service of John Smith.

8-10:30, and 2-4:30, Tuesdays, Thursdays and Saturdays, in the service of Thomas Robinson.

The schedule here outlined is merely a suggestive one and is subject to wide modification in details to suit special conditions.

During the period covered, the clinical apprentice will be expected to pay more attention to opportunity than to hours. He is expected to attend staff meetings and to avail himself of other similar opportunities to broaden his knowledge of medicine.

While the work of the student has been organized at the various associate teaching clinics along the general plans here outlined there has been, as there should be, considerable variation at the different centers in the way in which the plans are carried out. At one center the work may be largely confined to the hospital; at another, house visits in company with a preceptor,

or even alone, may constitute an important part of the training.

It is not possible to discuss in detail the differences in method used at the different centers without entering into an evaluation of personal equations which could not be considered with propriety here. Suffice it to say that all the students who took work at these centers last year found the training received a most valuable part of the medical course, and all those who took an active part in the work as preceptors or associate preceptors have expressed themselves as believing it well worth while. The experience this year has thus far been similar to that of last year. That those of us who are responsible for directing the clinical education of our students believe that the results of extramural teaching thus far justify the experiment is best shown by the fact that next year we intend to increase the relative amount of time devoted to this work. Those of us in charge of this work at the university are most grateful to the numerous busy men at the various clinical centers who have given so freely of their time to help make the experiment a success—who are zealous adherents to the first part of the Hippocratic Oath.

In conclusion, I give a few extracts from reports of students written at the end of their preceptorial services:

A student writes concerning one preceptorship:

The service at ——— was conducted at the ——— Hospital, the clinic, and occasionally at the ——— Hospital. . . . At the ——— Hospital I took histories, did routine physical examinations and came to my individual diagnosis. I took all the Wassermann reactions and did all the spinal punctures. I gave most of the intravenous and intramuscular medications that the nurses were not allowed to give. I scrubbed up and was first assistant on all the eye, ear, nose and throat work, on all cystoscopic examinations and on about one half of the major surgical operations. I was allowed free access to the laboratory and was supposed to do all the emergency laboratory work. I gave several Ewald test meals. I changed all the major dressings and removed all the stitches. I attended the staff meetings of both hospitals. I was on call for any emergencies during the night. I went rounds with four members of the staff. Rounds were conducted morning and evening. I was present at all fluoroscopic examinations. In the afternoons I was at the clinic and had access to all the books in the library. I read up on the cases I had seen in the mornings and often Dr. ——— suggested articles in current publications on special subjects to look up. When at the clinic I was on call to assist any of the doctors and was often called in to view an interesting case or an unusual one. In January the clinic examined 120-odd railroad men for fitness to work on the railroad. Here I helped make the examination and did some routine urine analyses. I was often asked to go with the doctors to make calls, in town or in the surrounding country. I went several times to the poor farm to see the patients there and also to the county tuberculosis sanatorium. So my total of 265 cases named above does not by any means include all that I saw in ———. I feel that my three months' experience in ——— was invaluable and that my preceptors were excellent teachers.

A student in another preceptorship service, where the work was less systematically organized than at that outlined above, felt that much had been gained in this service but that more would have been gained were rounds at the hospital made at definite hours and were one complete history and one complete physical examination made each day by the student and then thoroughly reviewed by a preceptor. In general, the students appeared to be best satisfied where the work was best systematized and to get the most where they showed the most initiative.

One student writes:

We have greatly enjoyed and profited by intimate association with Dr. ———. His words of wisdom, based on long years of experience and astute observations, have been most helpful. We feel, perhaps, that the greatest profit from our service has been the inspiration and stimulation of his personality.

Another student writes, concerning the same preceptorship:

I kept brief notes on about 300 cases seen. Complete notes were taken on about twenty-five or thirty patients. Some of the more instructive cases were actinomycosis of the jaw, double nephrolithiasis cured by nephrotomy and removal of stones, two ulcerative colitis cases, two cautery punch operations of prostatic bars, splitting of a small fibroma stricture of the ureteral orifice, an induction breach presentation after three previous cesarean sections, etc. Our externship does not replace our internship but rather prepares us for it. Our externship is a very fine substitute for the outpatient dispensaries of large cities; in fact, has several advantages. We see probably an equal number of patients in the offices of our preceptors, and it is a true cross-section of what we can expect in general practice. . . . One does not learn to treat people as animals or numbers but recognizes that each one has an individuality that should always be considered. On the other hand, we get a chance to diagnose and treat such minor things as sweaty feet, hangnails, boils, pink eye, blood blisters and the like that are so simple that they are hardly mentioned at school and yet may make or break you when you start practicing.

A student in another preceptorship states:

Two cases came in one night with a diagnosis of acute appendicitis, which we found to be typhoid. These were the first cases of typhoid that I had ever seen and I diagnosed the cases on the high temperature and leukopenia, no rose spots being present. We took a Widal test in both cases, and they came back positive.

Another student writes, concerning this preceptorship:

My externship at the ——— Hospital gave me a broader point of view of the field of medicine, a better conception of pathology and treatment, and taught me how to handle and follow up cases from the standpoint of the general practitioner. It was in my estimation the greatest single service in the fourth year.

A student writes, concerning a fourth service:

The most valuable part of the whole service to me has been the opportunity to meet patients and to be instructed as to how the physician should meet and handle patients. I consider the training I have received during my nonresident quarter the most valuable I have received throughout the whole medical course. It has been a wonderful combination of the theoretical and the practical.

Another student writes, concerning the same service:

We began morning rounds at the hospital at 8 a. m. and usually spent the morning there till 12 or 1 o'clock, took histories, made physical examinations, and assisted at operations; the afternoon from 1:30 till 5 or 4:30 was spent at the office. Here I took histories and did physical examinations in new cases. . . . A considerable number of the cases were industrial injuries. Following the routine work of the day, I was called out on all emergencies. Occasionally Dr. ——— took me on some obstetric calls.

The work in a fifth preceptorship is outlined as follows by one student:

Mornings were devoted to work at the hospital. This consisted of (1) assignment of at least two cases per diem to examine and diagnose; (2) rounds with discussion of cases, and (3) patients brought up for examination and treatment. Work was offered in surgery, medicine, the head specialties, pediatrics, gynecology and urology.

The student gives a detailed and enthusiastic description of the types of patients and kinds of work done in each of these services, but this description is too long to repeat here. Afternoons were spent at the clinic. Here " the same division of work appeared." Patients were "assigned for diagnosis and suggestion as to treatment. . . . There was a surgical symposium and quiz about twice a week at which practical office diagnosis was stressed." Some opportunity was offered for making house calls, both in company with members of the staff and alone. There was opportunity at the clinic "to use a well stocked library for reading on various cases seen during the day or morning, or to study up on some point presented in discussion." There were weekly scientific meetings "where cases or conditions were discussed before the doctors of the clinic." There were roentgenologic conferences and a journal club. "Each student presented some sort of a paper at some one of these meetings on something that he had worked up." Another student writes concerning this service: "It seemed that the doctors at ——— were as enthusiastic in receiving us as we were in being there. We did not, nor do I believe did they, lose any of our interest or enthusiasm during our stay."

Concerning a sixth preceptorship, a student writes:

I must state that it was very satisfactory. It was a pleasure to work under Dr. ——— and his associates. However, the benefits of such an association as I have had are relative to the forwardness of the clinical clerk because of the amount of work done at the clinic and hospitals. The men are very busy, and if one does not attempt to make his presence known he is likely to be forgotten and consequently lose out in many ways. On the other hand the men are very willing to cooperate and give the students all the work possible. Dr. ——— makes the statement that any or all of his patients are the clinical clerks' patients as well. House calls are made toward the end of the day by the various men. The clinical clerk is always at liberty to accompany the men on their calls and is usually asked to do so.

Concerning the same preceptorship, another student writes:

This service was excellent. I had my own patients to care for daily besides making general rounds with staff members. . . . The afternoons at the clinic were like a dispensary service. I took careful histories and made physical examinations on private patients. I was checked up on all these cases by a member of the staff. I was allowed to treat all minor injury cases.

Concerning a seventh preceptorship, a student writes:

My service was most satisfactory at ——— and I enjoyed every hour of the time I spent there. My time was taken up with writing histories, making physical examinations, giving anesthetics, scrubbing up for operations, and in addition I had ample time to do outside reading in the very well equipped library of the clinic. . . . I am deeply indebted to the men who have made my stay so pleasant and instructive.

Concerning the same service, another student writes:

The men who were doing general practice and not specializing usually met us at the hospital at 8 a. m. They took us through their hospital walks. The majority of patients a general practitioner confines to a hospital are usually cases for diagnosis or medical treatment. Following rounds at the hospital we proceeded to make house calls and arrived at the clinic at 11 a. m., where there were office hours till noon and again in the afternoon from 1:30-4:30. Here we saw a great variety of cases.

When in the service of specialists, this student found in general greater emphasis on detailed histories, detailed physical examinations, and more complete laboratory work, than when in the service of men in general practice.

Concerning an eighth preceptorship, a student writes:

The time I spent in this service was immensely interesting and worth while. . . . My externship brought me into contact with quite a number of medical men and gave me opportunity to observe their work and their methods of handling patients. I found of interest the jealousy and business-like competition which was manifested between the practitioners of this city. This was one of the big things brought home to me, and I hope I shall never be tempted to foster such a spirit.

This must suffice to illustrate the students' point of view of the work. Some of the lessons they learned, like the last, were negative, but many more were positive.

MEDICAL EDUCATION IN GREAT BRITAIN AND IRELAND*

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It may not be unfitting if at the outset I present certain credentials to warrant my presence here. I come from Scotland, where education has for centuries occupied a prominent place and has, it may fairly be claimed, become part of the national character. It is in the very marrow of our bones. And I come from Edinburgh, where education is the chief industry and whose numerous scholastic institutions in and around the city testify to the keen interest that many of our past citizens took in education. The spirit of the Latin proverb Disce, doce aut discede, is pretty well lived up to. We start teaching young. It begins as an interest, becomes a practice, and develops into a habit which some find it difficult to break. We have only comparatively recently introduced an age limit on the professoriate, and characteristically we have made it five years later than the civil service one of 65.

It is easy to sneer at those who fill a great many offices and to make acid allusions to Pooh Bah. But membership of several bodies all more or less concerned with the same object has its advantages and I am not the least ashamed of my connection with four boards or councils, each associated in some way with medical education and licensure:

1. Scottish Universities Entrance Board—preliminary.
2. Edinburgh University Court—whole university business.
3. Triple Qualification Board—examination primarily; but education and examination are inseparable and so the board also prescribes courses of study. Incidentally, it is the most loyal board to the General Medical Council. Board of nine, three of whom are members of the General Medical Council.
4. General Medical Council twenty years, and chairman of its examination committee ten years.

Medical education has a long past in my country and I do not propose to take you too far back into the details of its history. King's College, Aberdeen, was established in 1500, and one of the professors, known as The Mediciner, is believed to have been appointed in 1501, the first of a continuous line in this chair now filled with such distinction by my friend, Ashley Mackintosh. A professorship of medicine was founded in Cambridge in 1540, in Oxford in 1546, in Edinburgh

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in 1685, and in Glasgow in 1687. In 1505 there was some medical teaching in Edinburgh, for in that year the Barber-Surgeons obtained a charter of incorporation from the town council. The town council agreed to supply them with the body of "ane condamnit man annually, of whilk to make anatomy," and it was specified that "ilk was to instruct ithers." It almost suggests that the surgeons of the town were to take turns at teaching, and surely there is no better way to learn.

More than 200 years passed before the university, which was founded in 1582—also by the town council—determined to found a faculty of medicine. It was not easy in those days to found a medical faculty, and they had to apply to the College of Physicians to supply them with professors and examiners. The lists of the fellows of the College of Physicians of that date show that most of them had been educated on the continent, and the names of Reims, Orange, Caen, Harderwijk and Leiden occur with considerable frequency. It is not until 1701 that the name of a Scottish university appears—Aberdeen—followed in 1704 by St. Andrews and in 1705 by the first graduate of medicine from Edinburgh University, David Cockburne. I do not propose to retell the story of the progress of the Faculty of Medicine in Edinburgh, which was recently so admirably recorded by Sir George Newman at the bicentenary celebrations. I must pass on toward the present day.

By the end of the eighteenth century, opinion was growing that the public interest demanded some better organization in the medical profession. There were two main trends. The corporations, with their guild spirit inherent, inclined to their established system of a long apprenticeship, which, it is recorded, might begin so early as the thirteenth year. After serving an apprenticeship of from five to seven years, the student went to a teaching center, where he "walked the hospitals" and attended an anatomy school for one and a half to two years and was then examined for a college license. The university classes of that day were strong on the didactic side. The professors of medical subjects might or might not have any connection with a hospital. In Edinburgh the professors of botany, chemistry, anatomy and physiology at one time or another had charge of wards: it is interesting that we should today be endeavoring to restore some such connection. At any rate their teaching was mainly conducted in the lecture rooms round the old quadrangle. There were thus two distinct methods of instruction, and arguments were put forward in favor of each, usually with some modifications. The president of the Royal College of Physicians of London promulgated in 1804 a plan for better regulating the practice of general practitioners in the country, and other plans were put forward from many other parts. Commission after commission reported, and there is much of interest in all their reports. They were debated and debated, but it was not till 1858 that the first medical act was passed. Parliament in its wisdom decided that there should be one standard for admission to a medical register and left it to the General Council on Medical Education and Registration, which the act set up to determine what the level should be.

The several colleges and universities and bodies whose licenses and degrees were scheduled as giving admission to the original register were required to furnish the council with such information as it might require, and the council was authorized to send any of its members or any person deputed by them to be present at any or all of the examinations which candidates were required to pass in order to obtain the particular license or degree. I propose to reserve my main description of the constitution, the functions and the methods of the council for Wednesday's session and to pass on to the present arrangements for the education of doctors, especially where I know it best, in Scotland and in Edinburgh.

The most important thing in the education of a really good doctor is his general education. There are various ways of testing this. Most of our universities accept certificates which would admit candidates to other universities, at home, in the British Empire overseas, in India, Egypt, France, other European countries and the United States of America. Of these last we accept any university or college on the list of colleges and universities approved by the Association of American Universities. The majority of Scottish students enter our universities with the credit of the leaving certificate of the Scottish Education Department, which is a combined certificate of education and examination. If candidates have none of the preceding qualifications they must undergo a special preliminary examination, which is held conjointly by the four Scottish universities and which must include English, mathematics or physical science and one or more languages; of these subjects, two must be passed on the higher standard, provided Latin (or Greek) or mathematics is one of them; if not, the candidate must obtain three higher certificates. Although I had written some commendatory remarks on this examination in which I stated that it was in my opinion but little below the standard required from the M.A. of fifty years ago, it is an interesting coincidence that on the day I left Scotland I should have been at a meeting of the board to consider a further raising of its standards.

For a long time it had been felt that the curriculum of five years was insufficient for the reasonably complete education of our students, and various proposals to extend it were discussed. In my student days, when four years was the extent of the official curriculum, there was a marked difference between university requirements and those of the corporations. For instance, the latter did not require any instruction and examination in the subjects of botany and zoology, which the universities did. Neither of them gave in their curriculum any instruction in physics, though the universities placed the subject of dynamics in the preliminary examination. Having been educated in a classical school where four hours out of every six were daily devoted to Latin and Greek, my acquaintance with dynamics was so sketchy that I failed lamentably in that examination. Later the universities introduced courses of instruction and examination in physics and the corporations examinations in biology and physics, and the curriculum was extended from four years to five.

The spread of scientific teaching in the secondary schools of the country was all the time growing, and there was increasing pressure for recognition of their courses of instruction by the Medical Council, whose resolutions at that date specified that the instruction in these subjects must be given *in a medical school*. At first the council very rightly resisted this pressure, for it did not have adequate means of estimating the value of the instruction. As the schools continued to improve and the education departments in the country began to recognize the growing importance of science,

the pressure increased. The discussion occupied several years from 1904 onward. Various proposals were put forward, and in the end, in 1922, the usual British method of compromise was adopted. There was no formal lengthening of the curriculum but, in addition to passing a preliminary examination in general education, an examination, written, oral and practical, in the elements of chemistry and physics was required by the council before the admission of a name to the students' register. This examination is known to the council as the preregistration examination, and to those bodies who do not recognize registration as the premedical.

I think it would be well before passing on further to endeavor to make plain what the Students' Register is. There is no direct reference to one in the 1858 act; nor, though the Royal Commission of 1882 reported as follows:

> We agree in the opinion universally held by the witnesses that every intending medical student ought to pass an examination in general education before entering on medical study. . . . Its subjects should not be of a technical or professional nature. . . . Its general scope should be subject to the approval of the Medical Council, but the conduct of the examination should be left to the universities or such other bodies as may be approved by the Medical Council. We consider that the full period of medical study should be passed after the date of registration. The registration of medical students ought, we think, to be placed under the charge of the divisional boards (of the three kingdoms) and an officer of each board should keep a list of the names.

was this wise advice embodied in the 1886 act. But ingenious members searched the acts and found in section 18 that in addition to the courses of study and examinations they were authorized to inquire into the ages at which . . . qualifications are conferred. As to the sufficiency of these the council was to form, and if necessary to report to the Privy Council, its opinion. Thus, if 21 was the age agreed on as the minimum for qualification, the student must be at least 16 when he commenced study. To insure this the council had either to require each of the twenty-three licensing bodies to keep its own register and to keep it open to the council's daily inspection, or to establish a register of its own. The council had to take the bodies with it, and some of them which had comparatively severe conditions of entry of their own were unwilling to surrender their autonomy. Some have not done it yet. The council played its hand as usual. It laid down a minimum standard but it accepted for admission to its register the certificates required by even nonparticipating bodies whose standards were as high as or higher than the minimum. Throughout its whole career the council has never discouraged competition up. Though one or two bodies still do not insist on their students registering, practically all their students do in their own interests register. Registration is a passport to any student who is compelled by circumstances to change from one school to another.

Most of our secondary schools now have well fitted departments for the teaching of chemistry and physics, and their good pupils have no difficulty in passing this examination. For those students whose education has not been along these lines the university provides teaching leading up to the preregistration examination. It would be idle to pretend that all are satisfied by this change, and doubtless alterations may be found necessary. Still, it is the general experience that five or six years' training in the laboratories at school up to the age of 17 does give the majority of students a better, broader and deeper foundation in subjects of increasing importance to medicine than a five months' course of lectures and ten weeks of laboratory work.

The position of biology is different. There are but few schools as yet which make adequate provision for the teaching of that subject. Students coming from schools where it is good may enter for a professional examination in elementary biology immediately after they have registered as medical students, and the others get their instruction in the university.

This preregistration examination is still in the experimental stage and some of the bodies are not very sympathetic to it. Most of them, however, have accepted it *pro tanto* and we are trying to work this new scheme, which has at least this merit that we can now assume that every student starts the five years' curriculum with a working acquaintance with the elements of chemistry and physics. The council has to keep a watchful eye lest the examination should be regarded as a sufficient test of knowledge, and the medical curriculum proper recommended by the education committee contains the subjects of chemistry, physics and biology in their application to medicine.

We have in Edinburgh as professor of medical chemistry Professor Barger, who instructs the students at different points of their curriculum and so keeps chemistry a living subject all through it. Professor Ashworth, our professor of natural history, also divides his instruction to medical students into two sections, one on general zoology to first year students, and a special course in the third year on medical entomology and parasitology. In some of the medical schools, however, the instruction is confined to the early terms of the curriculum. Sir George Newman in his memorandum on "Recent Advances in Medical Education in England" sums the method up succintly in the words: "The fundamental approach is the same in these three subjects, namely, an introduction to the elements and principles in the secondary school, and the exposition of the medical aspects, meaning and purpose in the university." I have quoted examples from my own school because I think they are among the best examples, but all the universities are moving, some, I think, by different paths, in the same direction.

Let me briefly run over the further arrangements for teaching our students in Edinburgh. I limit myself to this since I am naturally most familiar with the conditions there. For practical purposes there is little difference between ours and the other Scottish universities.

Students who have passed the preregistration examination should sit the first professional in chemistry, physics, botany and zoology at the end of their third term (one year). During this year they have also been engaged in the study of anatomy and histology, and at the end of their sixth term comes the examination in anatomy and physiology, the students' time for one year having been entirely devoted to these two subjects. The block system recommended by the council, under which a student must not proceed to the study of further subjects until he has passed in anatomy and physiology is not rigorously followed by all the bodies, but the Scottish universities, loyal as usual to the council's resolutions, impose it pretty generally.

The third year is devoted mainly to pathology, bacteriology, pharmacology and clinical therapeutics. There is a junior course of lectures in medicine (one

term), and an introductory course in clinical surgery and allied subjects (one term). The examination in pathology, materia medica and therapeutics is held at the end of the ninth term.

In the fourth and fifth years we are trying a new method. We have a very large number of students to cater for, and though we have a large staff of teachers we are trying to better things by the help of more organization. The students of the year are divided into three sections. Section A is the medicine group and its time is devoted to clinical medicine and infectious diseases. Section B. (surgery) works at clinical surgery, anesthetics and dispensary practice, a centuries' old feature of Edinburgh teaching. There are scattered over the town about half a dozen charitable dispensaries for the attendance on the poor, both at the dispensary and in their own homes. They are usually staffed by young physicians who each attend at the dispensary one or two days a week, and each of them has a similar clientele of students attached to him for instruction. Patients who are unable to attend at the dispensary send their names and addresses there. These are distributed among the students, who visit them at their homes and thus begin the practice of medicine under

Numbers of Students Entering University of Edinburgh Faculty of Medicine from 1900 to 1927

Year		Year	
1900	255	1914	137
1901	229	1915	151
1902	243	1916	232
1903	245	1917	239
1904	233	1918	414
1905	225	1919	268
1906	233	1920	366
1907	180	1921	225
1908	209	1922	140
1909	181	1923	153
1910	206	1924	148
1911	184	1925	184
1912	188	1926	199
1913	195	1927	267

the direct supervision of an experienced teacher. Section C is the special subjects group which includes diseases of the eye, ear, nose and throat, and skin. The students' clinical time is devoted to these during one term. During the tenth term all the sections attend a midwifery lecture demonstration daily from 9 to 10 and spend the rest of the day at clinical work. During the eleventh term all sections attend lecture demonstrations on senior medicine, gynecology and mental diseases, and during the twelfth term the subjects of the lecture demonstrations are public health, forensic medicine and senior surgery. This method was first introduced in connection with the special departments, and worked so well that it has been extended as described. The examination in public health and forensic medicine comes at the end of the fourth year.

The attitude of the Medical Council, in the discussion which led to the new curriculum which the council recommended should become operative from January, 1922, was the outcome of a conviction that, in the past, sufficient attention had not been given to the importance of preventive medicine. In most of our educational institutions, public health was taught as an appendage of the chair of forensic medicine. True, its growing importance was being more and more recognized, but, in the past at least, the occupants of the chairs were selected for their eminence as medical jurists rather than as public health exponents. Although Edinburgh was the first university to establish a chair in public health, the University of Aberdeen was foremost in the practical teaching of the subject, for the chair of medical jurisprudence and logic, as it is there called, was occupied for many years by Prof. Matthew Hay, who, simultaneously, held the post of medical officer of health for the city. He thus had, in the hospitals and public health machinery of the city, opportunities for practical teaching such as his colleagues in other chairs held in the Aberdeen Royal Infirmary.

Recently, circumstances presented us in Edinburgh with a new opportunity. The chair of public health became vacant, and, in our old country at least, it is easier to make reforms when a chair is empty. Convinced that something of an imitation of the Aberdeen method was the desirable line to follow, we endeavored to proceed along it. We did not get all we wanted—reformers rarely do. But we have secured the establishment of a working plan which promises to equip our students more adequately to handle the problems of preventive medicine than their predecessors. The professor is Colonel Lelean, who, during the war, achieved great distinction as a sanitary authority. To him falls the larger share of instruction of students in the theory and the plan of campaign. But at the same meeting of the University Court at which the professor was appointed, the medical officer of health for the city of Edinburgh was appointed director of the practical methods of administration, which occupies a third of the course. From the pure didactic form of our previous method, we have now that companionship of theory and practice which seems to us the best method of instructing students.

During the fifth year the group system is continued. The midwifery group works at clinical midwifery, clinical gynecology and diseases of children; the medical group at clinical medicine, tuberculosis and dispensary practice; the surgery group at clinical surgery, operative surgery and venereal diseases. During the fourteenth term all sections attend a course of lectures in applied anatomy and another in venereal diseases. The last term is entirely devoted to hospital work and is followed by the final examination in medicine, surgery and midwifery.

The final examinations extend over several days and include written, clinical, practical and oral examinations in each of the three qualifying subjects. We found it impossible to arrange examinations in the all too numerous special subjects, and in substitution for this the professor or lecturer is required to certify that each student has diligently attended and duly performed the work of the class. When this method was first introduced I think there was a little tender hearted laxity; but as time has gone on an increasing sense of responsibility has developed and students who have not diligently attended find their final examination deferred for from three to six months. They cannot enter for it without presenting duly performed certificates for each special subject. But in matters dealing with special branches of medicine we must keep ever in mind that while we strengthen the superstructure we must not do it at the expense of weakening the foundations.

These arrangements differ considerably from the order followed in some other schools. With regard to examinations, all the Scottish universities place pathology, materia medica and pharmacology at the end of the third year; but, as referred to elsewhere, this is

not the position given to these subjects in some universities. Perhaps the part of our arrangement most open to criticism is the placing of the examination in public health and forensic medicine at the end of the fourth year. I do not think it can logically be defended. These are subjects which are inextricably mixed up with the subjects of the final examination and with the life's work of a doctor. It is only out of tenderness for the student who admittedly has a very heavy task set him in his final examination that these subjects are placed where they are.

The minutes of the General Medical Council for 1907 contain a very interesting report of the education committee. It was mainly the work of Principal Yule Mackay of University College, Dundee, then chairman of the committee, who has left a deep mark on medical and other education in Scotland.

Very striking is the effect of the rising standard of preliminary examinations on the age of entry. It was 16, is now officially 17, but practically is nearer 19. The curriculum officially was and still is five academic years. A study of the courses of 1,111 students who qualified in 1906 showed that the mean length of curriculum was in England 7 years 4.9 months, in Scotland 6 years and 6.2 months, and in Ireland 6 years 5.1 months.

In 1925 the reports from the twenty-three licensing bodies showed that 2,896 candidates passed the final examination. There were only 2,570 original registrations. A good many of those registering, especially in England, had two qualifications. Of the 1,708 registering in England, 939 were in virtue of diplomas and 769, of university degrees; in Scotland the corresponding figures were 751, 145 and 606; in Ireland, 437, 64 and 373.

Those of you who are most familiar with the working of the General Medical Council will best appreciate the difficulties I encounter when I try to draw a strict line of division between education and examination leading up to licensure, qualification or registration. And therefore though I reserve for Wednesday's session my principal references to the General Council of Medical Education and Registration, its constitution and its methods, it will materially help to clarify my remarks this morning if I deal today with its relations to education and examination. They are the warp and woof of our texture and they are inextricably interwoven.

As regards education, the principle sanctioned by the legislature is laid down by the Royal Commission of 1882. "It would be a mistake to introduce absolute uniformity into medical education. One great merit of the present system, so far as teaching is concerned, lies in the elasticity which is produced by the variety and number of educational bodies. Being anxious not in any way to diminish the interest which the teaching bodies now take in medical education, or to lessen their responsibility in that respect, we desire to leave them as much initiative as possible. In certain matters of general importance, such as the duration of study, and the age at which a student should be permitted to practice, common regulations ought, we think, to be laid down; but we wish to record our opinion that nothing should be done to weaken the individuality of the universities and corporations, or to check emulation between the teaching institutions of the country." So far, however, as the primary tendency of competing examinations might be regarded as downward rather than upward, the state has established a check. It has affirmed the principles (1) that a certain minimum of stringency shall be required; (2) that the minimum shall always be such as to secure efficiency in the practice of the essential branches; and, lastly (3), that to admit of the gradual rise of the minimum with advancing needs and advancing knowledge, the practical definition of it from time to time shall be left to the General Medical Council, with the concurrence of the Privy Council.

Apart from the executive, finance, business and other special committees, the council has three standing committees—on education, on examination and on public health. The last of these deals only with the courses of study and examinations for the special diploma in public health and does not concern us here. Each of these committees consists of twelve members, six from England, three from Scotland and three from Ireland. Of the Education Committee Sir Humphry Rolleston, who represents the University of Cambridge, is chairman, the other members represent, respectively, the Universities of Leeds, Sheffield, Liverpool, Edinburgh, St. Andrews, and Trinity College, Dublin, the Royal College of Surgeons of Edinburgh, and the committee is completed by two crown nominees and two direct representatives, one from England and one from Ireland. The examination committee has myself, the direct representative of the profession in Scotland, as chairman, representatives from the Universities of London, Bristol, Birmingham, Manchester, Aberdeen and the National University of Ireland, representatives of the Royal College of Surgeons of England and of the Royal College of Surgeons in Ireland, and a direct representative from England. It will thus be seen that each committee is a microcosm of the council, and all matters are thoroughly thrashed out round the table in committee before presentation to the council.

The Education Committee prepares its views on medical education in the form of resolutions, not requirements. With one exception they all contain the word "should." The exception concerns one of our British irregularities. Under the supervision of the council there is prepared a students' register. There is no provision for this in the medical act, but it was adopted by the council to meet difficulties inherent in varying forms of entrance examination. The council has prepared a list showing the examinations, which, in its judgment can be recognized as giving right of entry to this register. It has been found helpful, and the great majority of licensing bodies require, or at least recommend their students to register; each, however, retains its independence and may admit exceptional cases. These must, however, be reported to the examination committee annually. As a students' register is the council's own register, it departs from the "should" and uses the verb "shall" in connection with registration.

For many years, certain of the bodies have been advocating the acceptance of the study of chemistry and physics in secondary schools, and some who did not recognize the students' register had been accepting it. Since 1922 it has been laid down that before registration as a student, or commencing the regular medical curriculum, every person shall be required to pass, in addition to an approved examination on general education, an examination or examinations conducted or approved by one of the licensing bodies in elementary physics and chemistry, the examination to be both theoretical (written) and practical. Having laid down the conditions for registration as a medical student, the

council then returns to the advisory word "should" and recommends that the period of professional study between the date of registration as a medical student and the date of the final examination or any diploma which entitles its holder to be registered under the medical acts should be a period of certified study of not less than five academic years, in the last three years of which clinical subjects shall be studied. There is a good deal of weight behind this "should."

It may help in the understanding of a rather difficult subject if I illustrate the procedure which should be followed by students who, having begun medical study somewhere outside of Great Britain, did not have the opportunity of entering their names on the students' register when they first commenced study.

Let me suppose that circumstances constrained a student of the University of Chicago, who had completed his two (or three) years of premedical study at an accepted college, and his freshman and sophomore years at the medical school, to migrate to Great Britain and complete his medical course there. Having been accepted by the dean of one of our schools, he should immediately apply for registration as a medical student. This does not necessarily involve an *additional* period of five years' study in Great Britain. Along with his application he must present evidence of the courses of medical study he has pursued in the United States, and make formal application for the antedating of his registration to the actual date on which he began these. The courses of professional study of most of the American universities are so well and so favorably known that most cases are dealt with automatically by one or other of the branch registrars: special cases are reserved for the consideration of the education committee. If that committee is satisfied that the preliminary education, the premedical education, and the part of the medical education received in the American college and university are equivalent to the standards approved by the council, the registration will be antedated, so as to cover the duration of his bona fide study of medicine, and to allow it to be reckoned within the five years minimum curriculum.

It rests with each licensing body to accept or not to accept, as the equivalent of its own, any of the earlier professional examinations passed in America; but no licensing body may exempt a candidate from the final or qualifying examination in medicine, surgery and midwifery.

The conjoint boards of the royal colleges in England and in Scotland exempt from all but their final examination candidates who hold the diploma of the National Board of Medical Examiners of the United States.

I can imagine some of you thinking this is interesting enough in its way, but what does the council do to see that proper attention is paid to those quite excellent pious resolutions? Apparently very little and nothing drastic. The power of the council to "inspect" examinations is limited to the three subjects of medicine, surgery and midwifery in the final or "qualifying" examination, and the inspectors' reports have to be forwarded along with the comments of the council and of the body inspected to the Privy Council, on which august body responsibility for any necessary action rests. The word "inspector" is not much beloved in our country, and it was partly a recognition of this and partly inappreciation of the now recognized fact that a sound knowledge of the earlier subjects is essential to the thorough understanding of the "qualifying" subjects which accounts for the absence of any provision in the 1886 act for "inspecting" the earlier examinations. But British acts of parliament often contain more than immediately meets the eye, and in section 18 of the 1858 act we found our authority.

The resolutions of the Education Committee are an indication of what the requirements for sufficiency are. The council lays down the subjects which are to be studied but offers no instruction as to the order in which they should be studied or at what period examinations should be held. Section 18 of the 1858 act is as follows:

> 18. *Council may require information as to course of study, etc., required for obtaining qualifications.*—The several colleges and bodies in the United Kingdom mentioned in schedule (A) to this act shall from time to time, when required by the General Council, furnish such council with such information as they may require as to the courses of study and examinations to be gone through in order to obtain the respective qualifications mentioned in schedule (A) to this act, and the ages at which such courses of study and examination are required to be gone through, and such qualifications are conferred, and generally as to the requisites for obtaining such qualifications; and any member or members of the General Council, or any person or persons deputed for this purpose by such council, or by any branch council, may attend and be present at any such examinations.

Although the Education Committee has under this section only power to require information as to the courses of study, the Examination Committee may arrange for the presence at any or all examinations of members (visitors) or deputy visitors. Their primary object is to observe the methods of conduction and the standards required for the examination. The visitors are not received in any hostile spirit; they are cordially welcomed as missioners from the council and have placed at their disposal all the information regarding courses of study which may be useful to the Education Committee.

During the last four or five years the Examination Committee has operated the powers given by section 18 of the medical act of visiting examinations and at the same time inquiring into the courses of study leading up to them. The powers of the council to "inspect" examinations are limited to the three subjects of medicine, surgery and midwifery in the final examination, and the inspectors' reports have to be forwarded to the Privy Council and are public documents. The visitation of examinations is entirely an intracouncil matter and the reports of the visitors, who are generally members of the Examination Committee, are confidential. We have during these last four or five years confined ourselves to the subjects of what is generally known as the second professional examination in anatomy and physiology, and to the subjects of pathology, pharmacology and materia medica. Public health is needed and will probably be undertaken this year and next. The position of the first two subjects is clear as the examination in these subjects acts as a block in the curriculum. The council advises that the last three year period should not commence until the second professional or intermediate examination has been passed. Although the power of visiting these examinations has existed since 1859, it had not been previously exercised save once, when the pure clinicians were some of them disposed to think that the time spent on biology, physics and chemistry would be better spent in the wards. It has proved very instructive, and many interesting features have been brought to the knowledge of the committee, and in an interim report they

have been broadcast to all the bodies. This diffusion of information has been most valuable, and it can be claimed that the standard of examination in physiology, and necessarily along with it the instruction in that subject, has been definitely raised. Some useful information was collected in the other subject of anatomy, and it is difficult to avoid the conclusion arrived at by most observers that there still remains a good deal to be done to modernize it. Some of the bodies make embryology an important part of the examination. All of them now examine in anatomy on the living subject, and in one university a teacher of medicine and one of surgery take part in the examination and pass all the candidates through their hands.

The subjects of pathology, pharmacology and materia medica are in a different position. As I have endeavored to make clear, the Medical Council makes no attempt to impose uniformity. They believe with Kipling that

> There are nine and sixty ways of constructing tribal lays,
> And every single one of them is right.

The visitors found the position of pathology to vary in different centers. In some the examination takes place at the end of the third year after an intensive course in general, special and practical pathology, extending over three terms. In others it forms part of the final examination and therefore comes at the end of the fifteen terms of medical education (part I). Others again subdivide it into general pathology in the third year and special pathology, including clinical pathology, in the final.

The associated subjects of materia medica, pharmacology and therapeutics are still more varied in their application. In perhaps the majority of universities the examination in the first two is held at the end of the third year, while therapeutics is part of the final. In others there are three examinations, one quite early in the third year on materia medica, the second on pharmacology at the end of the fourth year, while therapeutics comes into the final. There are still some bodies who lay, what seems to our visitors, undue stress on the materia medica side and require their students to possess a more intimate acquaintance with the details of the contents of the British Pharmacopeia than any of the visitors could profess to have. Most of the advancing universities, however, have reduced this part of the subject to more reasonable dimensions and the instruction is concentrated on a few types. These universities are extending their instruction in pharmacology. Some give very valuable courses of instruction in that subject. It seems natural that therapeutics should be part of the final and the tendency is all in that direction. The reports on this series of visitations have not all come in yet, but we expect them before next session of the council and the committe will probably have them under consideration in May.

DIPLOMA IN PUBLIC HEALTH AND SPECIAL DIPLOMAS GENERALLY

Part III of the 1886 act deals *inter alia* with the establishment of what was then a new diploma.

> 21. *Registration of diploma in sanitary science.*—Every registered medical practitioner to whom a diploma for proficiency in sanitary science, public health, or state medicine, has after special examination been granted by any college or faculty of physicians, or surgeons or university in the United Kingdom, or by any such bodies acting in combination, shall, if such diploma appears to the Privy Council or to the General Council to deserve recognition in the Medical Register, be entitled, on payment of such fee as the General Council may appoint, to have such diploma entered in the said register, in addition to any other diploma or diplomas in respect of which he is registered.

This is the only instance of recognition by the council of a special diploma. It was introduced through the influence of Sir John Simon, who was medical officer of the local government board and was a response to the spread of interest in public health and the need of special qualifications in those practitioners who administered the public health acts. This diploma is much more under the control of the General Medical Council than the ordinary medical one, for by the wording of the act the decision as to whether the diploma of any particular body is or is not sufficient rests equally with the Privy Council or the General Medical Council. Being a registerable diploma the council may remove it from any unworthy holder.

Perhaps this is a suitable time to refer to the subject of special diplomas generally, which is interesting us as it is interesting you. There are many diplomas given by one or other of the licensing bodies testifying to the qualifications of the holder in certain subjects. Thus there is a diploma in ophthalmology, diplomas in tropical medicine, in tropical hygiene, and more recently a diploma in radiology. Other branches of medicine are endeavoring to have similar ones issued for the subjects which interest groups of the medical profession. Up to now the council has not seen fit to put its stamp on any of these diplomas. There are many difficulties, and since it is unlikely that Parliament will so legislate as to confine the practice of radiology to those who hold such a diploma, it seems likely that to the experience of time will be left the decision in this matter. Meanwhile our *laissez-aller* plan of letting the experiments be made by the individual bodies is likely to be the way of its solution.

Circumstances conspired to influence what I have said to you this morning. It was my intention to use the quiet of the voyage across to polish and condense the remarks I have just concluded, and your patience would have been less severely taxed. But Nature intervened: we had the worst of the many sea voyages I have made, and the waves made it impossible to maintain a seat at the writing table.

But in spite of the weather I slept night after night as soundly as the author of "Rocked in the Cradle of the Deep." When on the train from Halifax, en route for Montreal, I could not help wishing, when I was awake, that some one had paid more attention to the cradles of the rails, but when bedtime came I slept as soundly as at sea. But, in the peaceful calm and quiet of Chicago, sleep deserted me and my thoughts would return and return to the duty in front of me this morning. This had some advantages, for there came to me in the night watches what seemed to me a suitable peroration.

It would not be correct to say that the Medical Council either "leads" or "drives" the twenty-three licensing bodies of Great Britain and Ireland. It "shepherds" them. They progress along—generally in the right direction. Sometimes they browse by the wayside; but if their lingering does cause them to fall a little behind, as soon as they realize the position they hasten to rejoin the flock. If they lag too far behind or stray too far to the right or left the council sends its dogs of the education and examination committees to "bark" at them. They are not allowed to "bite."

We never interfere with those bodies whose capacities enable them to keep ahead of the flock. Their action stimulates all those behind and the whole moves more rapidly onward. And so at the day's end, when a survey is taken, the whole flock has reached its temporary resting place, the whole flock is in good condition, in good heart, and ready to face the onward road again, the eager ones once more ready to lead and the less eager anxious to be nearer the front than before.

THE TEACHING OF MEDICAL PARASITOLOGY *

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The present trend in medical education in the United States favors a reduction in the number of detailed facts presented to the student. There is a growing desire to treat the student as one who is working for a postgraduate degree rather than as an undergraduate, allowing him more free time to think and relax, and more choice in the selection of his courses. At the same time, some subjects have been demanding a more prominent place in the medical curriculum. One of these is parasitology, which, in most of the medical schools of this country, has until recently received scant attention. Only four of the medical schools in the Southern states, where this subject is most important, describe in their bulletins instruction in parasitology which seems to be at all commensurate with its importance.

How to meet the double necessity of reducing the curriculum and, at the same time, of introducing the student to a difficult phase of zoology in such a way that he can comprehend the subject and use it in his profession is a problem worthy of careful study. A competent teacher of parasitology must be one who has had a thorough training in invertebrate zoology, and is therefore not likely to be one who has had the time to study and practice medicine. But unless a zoologist has had a medical training it is difficult for him to present the clinical point of view, which is necessary to make parasitology of practical value to the student, in the limited time which can be allotted to it in the medical curriculum.

A solution of this difficulty is to be found in the employment of both a zoologist and a clinician in teaching a course in medical parasitology. The subject lends itself admirably to such a cooperative effort. It should not be difficult to find a clinician on the staff of any good medical school, particularly in the Southern states, who is capable of handling the clinical aspects of parasitology. The more difficult requirement is that the teaching staff contain a well trained parasitologist, preferably as a member of the department of hygiene and preventive medicine, the interests of which most closely touch the subject of animal parasites. Such well qualified men are now becoming available through the activities of several universities and schools of hygiene and public health.

Granting the possibility of providing cooperation, the question arises as to the most suitable place for the course in the medical curriculum. If parasitology is taught purely as a preclinical subject, the student is likely to forget important facts concerning the parasites by the time he sees the clinical conditions produced by them. If, however, the course is placed somewhat later in the curriculum, it can be made a course on *parasitic diseases*, studying not only the parasites themselves as the causes of disease, but considering also the diseases as clinical entities, together with their treatment and prophylaxis. Systematic order must, of course, be observed, and details of morphology must be learned; but if the primary emphasis is placed on the biologic activities of the parasites, the student will grasp more easily the reasons for their clinical importance.

Such a course can appropriately be given during the third year, and requires from seventy-five to a hundred hours for satisfactory presentation. This should not be considered as a direct addition of so many hours to the curriculum, but rather as a rearrangement of the hours already devoted to the presentation of parasitic diseases, in the courses on clinical pathology and clinical medicine, with a reasonable addition commensurate with the importance of the subject.

An attempt has been made to carry out these principles in the course on parasitic diseases given at the Peking Union Medical College. The course is given during the third trimester of the third year, as the terminal portion of a course on communicable diseases, which runs through the whole year. This makes the student familiar with infections in general before he studies the more complicated relationships of animal parasites to diseases. The course occupies ninety-nine hours, including twenty-two three-hour periods, eleven two-hour periods and eleven one-hour periods. The natural divisions of medical parasitology are preserved, medical entomology, helminthology and protozoology being taken up in the order named. As each parasite is studied, the disease which it produces is considered, including its pathologic, clinical and preventive aspects. In the entomologic work, the preventive aspects are emphasized especially. Clinical cases of parasitic diseases are used as much as possible. This is considered to be so important that plans are made in advance to import ambulatory cases of certain diseases from a distance, if they are not available locally. Parasites of the lower animals are introduced only when they assist in simplifying the study of human parasites. Special emphasis is laid on microscopic diagnosis.

A few illustrations will serve to show how the program was carried out last year. In the work on mosquitoes, for instance, a one-hour period was first devoted to a lecture on their life cycle. At a three-hour period the next day eggs, larvae, pupae and adults of one species of each of the three genera *Culex*, *Aedes* and *Anopheles* were studied in the laboratory from preserved and mounted specimens. On the third day a two-hour period was devoted to the discussion of breeding places and mosquito eradication, illustrated by lantern slides. Had it been possible to present this subject in the early autumn instead of in the early spring, another three-hour period could have been used profitably in visiting typical breeding places and collecting larvae and adults.

In discussing kala-azar, which is the most important endemic disease of North China, a three-hour period was first used to present and demonstrate the life histories of the hemoflagellates in general, specimens of *Leishmania* from spleen smears, cultures and sand-flies being used to illustrate this parasite. A lecture followed the next day on the medical importance of the hemoflagellates. During a second three-hour period there

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* The main portion of this paper was read as part of a symposium on the Teaching of Parasitology before the third annual meeting of the American Society of Parasitologists, Nashville, Tenn., Dec. 28, 1927.

was a demonstration of the various methods of laboratory diagnosis in kala-azar; a presentation of clinical cases from the wards, and a discussion of treatment. A two-hour period the following day was given to the presentation of the epidemiologic work being carried on by the Kala-Azar Field Studies Commission of the college.

On the subjects of amebiasis and the intestinal flagellates, two three-hour periods and one one-hour period were devoted to the systematic description of these parasites and to the study of fixed fecal specimens stained with iron hematoxylin and microscopic pathologic specimens from cases of amebiasis. Then followed a two-hour period on the clinical aspects of amebiasis and flagellosis and their prevention. These subjects were taken up in the next to the last week of the course, and during the last week all of the nine hours allotted to the course were devoted to the routine examination of fecal specimens from selected ward cases for ova and protozoa.

The course was conducted jointly by the division of parasitology of the department of pathology and by certain members of the department of medicine. It was found profitable to have members of both departments attend each session of the course so as to practice true cooperation. Members of other departments were occasionally invited to present certain subjects, such as the surgical aspects of echinococcus infection. Nine instructors participated in the course. It was felt at the end of the course that the results obtained with the students fully justified the change from the former preclinical method of teaching parasitology.

Although parasitic diseases are more prevalent in China than in most parts of the United States, it is probable that if physicians in this country were better trained in the subject, a higher incidence of such diseases would be discovered. Americans are traveling and residing more and more in foreign countries where parasitic diseases are prevalent. Furthermore, most of our port cities receive seamen and immigrants from tropical countries, especially from Latin America and the West Indies, and in some of these cities there is very little provision for the accurate diagnosis of parasitic diseases. This can be remedied in part by preparing all practitioners of medicine to recognize such diseases, or at least to have them more prominently in mind than they have in the past. This report is made for the purpose of emphasizing the need of placing a greater emphasis on parasitic diseases, especially in the medical schools of the Southern states, and of indicating a method by which the need can be met.

Preventive Medicine.—We should be just as resourceful in practicing preventive medicine as we have been in the past in treating the diseases under our care. We should not allow the state or the government to take over any work which properly belongs to us through lack of efficiency or initiative on our part. The average physician should be better qualified to give the expectant mother that intelligent care and attention which is necessary to enable her to pass safely through her pregnancy and confinement than she can possibly obtain through reading any number of pamphlets or bulletins. We should in every way encourage these women to consult their physicians regularly and the routine examination, instructions as to diet, clothing, exercise, fresh air, personal hygiene, etc., should all receive special attention. The physician who is to care for and be responsible for the mother at the time of confinement has every reason to expect that mother to place herself in his care long before the date of confinement.—Emerson, G. S.: *New England J. Med.* **198**:90 (March 1) 1928.

THE KAHN TEST IN PRIMARY SYPHILIS *

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AND
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Clinicians have long recognized that treatment in syphilis is most effective if begun during the primary stage. This renders the diagnosis of this stage of the utmost importance. As an aid in such diagnosis, this laboratory utilized up to August, 1927, the Wassermann and the early Kahn procedure in addition to dark field examinations for *Spirochaeta pallida*. It was found that these serologic tests became positive only in a small percentage of the cases before the second or third week following the appearance of the chancre. When the standard Kahn test [1] was adopted in these laboratories in August, we began to observe a marked increase in the number of positive reactions during the early primary stage. These reactions have been occurring with such frequency that it seemed worth while to make a preliminary report of our observations. In this article,

The Kahn Test Compared with Dark Field Examination in Primary Syphilis

Duration of Lesion Days	Positive Kahn or Dark Field	Positive* Kahn	Positive Dark Field	Positive Clinically, Negative Kahn and Dark Field	Kahn Positive Dark Field Negative	Dark Field Positive Kahn Negative	Per Cent Positive Kahn	Per Cent Positive Dark Field
1- 7	39	18	24	2	6	12	56.21	75
7-14	39	35	24	0	15	4	89.74	61.53
14-21	21	19	10	0	11	2	90.47	47.62
21-28	9	8	5	0	4	1	88.88	55.55
28-84	4	4	1	0	3	0	100	25
Total	103	84	64	2	39	19	80	60.95

* Positive includes +, ++, +++ or ++++ reactions. One plus reactions are considered as diagnostic of syphilis in this series because of the corroborating dark field and clinical observations.

the results with the Kahn test will be presented in comparison with the results of the dark field examinations.

A series of 187 patients, all exhibiting venereal lesions, were examined by means of the Kahn test, with the dark field and clinically by Dr. Thomas, the physician in charge of the venereal clinic. These examinations showed 105 of these cases to be in the primary stage of syphilis. The comparative results of the Kahn and dark field examinations are given in the accompanying table.

A study of the table reveals the following facts: out of a total of 229 Kahn and 187 dark field examinations made in 187 cases, it was found that 105 were in the primary stage of syphilis, as shown by the clinical evidence, the dark field examination or the Kahn test. The eighty-two patients responding negatively to Kahn and dark field examinations were clinically diagnosed as having either gonorrhea or chancroid. In these cases local treatment was administered when gonorrhea or chancroid was definitely diagnosed. All patients showing a negative dark field and a positive Kahn reaction, or a positive dark field and a negative

* From the St. Louis Health Division Laboratories.
* This study was made possible through the support given by Dr. Max C. Starkloff, health commissioner, and the cooperation of Dr. C. S. Thomas, chief of the venereal clinic.

1. Kahn, R. L.: Serum Diagnosis of Syphilis by Precipitation, Baltimore, Williams and Wilkins Company, 1925.

Kahn reaction, were given their first dose of arsphenamine immediately. This procedure made it impossible to verify all negative dark field observations after short intervals as was done with the Kahn test in all cases showing some evidence suggestive of syphilis. These subsequent Kahn tests were positive in two, or 1.55 per cent, of the cases giving an initial negative Kahn dark field reaction, thus corroborating the positive clinical diagnosis made.

The table further shows that out of 105 cases of syphilis, eighty-four, or 80 per cent, gave a positive Kahn reaction and in sixty-four, or 60.95 per cent, the dark field examination was positive. It is also seen that the Kahn test was positive in thirty-nine cases in which the dark field examination was negative, and that the dark field examination was positive in nineteen cases in which the Kahn reaction was negative. If the dark field examination had been used alone in this series, it would have failed to detect syphilis in 39.05 per cent of the cases, and if the Kahn test had been used alone, 20 per cent would have been missed. During the first week after the appearance of the chancre, the dark field examination was found to be more reliable than the Kahn test, but in the second and subsequent weeks the Kahn reaction was more reliable. These results speak strongly for the advisability of examining each case of suspected primary syphilis by means of both the dark field examination and the serologic tests.

There seems to be considerable difference of opinion as to the time intervening between the appearance of the initial syphilitic lesion and the positive serologic reaction. It is of course true that the individual resistance to infection and the delicacy of the serologic test determine, in a large measure, just how quickly positive serologic reactions will be secured. Craig [2] reported one case in which the positive reaction occurred only five days after the appearance of the chancre. Rosenau [3] states that the Wassermann reaction becomes positive "by the tenth day in about 30 per cent of the cases although it has occasionally been noted as early as three days after the initial lesion appeared. It is positive in 70 per cent by the end of the third week, and in 96 per cent of all cases by the fortieth day."

The Kahn test in the present series gave positive reactions in eighteen cases out of a total of thirty-two presenting chancres of less than one week's duration. The strength of these reactions was as follows: eleven, + + + +; one, + + +; two, + +, and four, +. Two patients having chancres of only three days' duration gave + + + + reactions. In the eighty-four cases that showed positive Kahn reactions 63.09 per cent were + + + +; 13.09 per cent were + + +; 8.33 per cent were + +, and 15.47 per cent were +. It is thus seen that the Kahn test offers a delicate mechanism for detecting very minute quantities of syphilitic reagin in serum. Judging from this ability to show positive reactions in cases in which the chancre was of less than one week's duration, it can be concluded that the Kahn test possesses a high degree of sensitiveness.

CONCLUSION

1. The Kahn test was found to be a very delicate criterion in diagnosing syphilis in persons having chancres of less than one week's duration.

2. The Kahn test gave positive results in 80 per cent and the dark field examination gave positive results in 60.95 per cent of all cases in the primary stage of syphilis. The primary lesions were of less than twenty-eight days' duration in all but four of these cases.

3. The Kahn test failed to detect syphilis in 20 per cent of the cases and the dark field examination failed in 39.05 per cent.

4. This study has emphasized the advisability of making a Kahn test and a dark field examination in all cases of primary syphilis.

2. Craig, C. F.: J. Exper. Med. **12**: 726, 1910.
3. Rosenau, M. J.: Preventive Medicine and Hygiene, New York, D. Appleton & Co., 1927.

FETAL MORTALITY AFTER THE INDUCTION OF LABOR BY CASTOR OIL AND QUININE

REPORT OF CASE *

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In June, 1927, Gellhorn [1] reported a case of his own and cited two others in which quinine, given for the purpose of inducing labor, apparently had caused fetal intra-uterine death.

Since Watson's original communication in 1920, this method of inducing labor by means of castor oil, quinine and pituitary extract has gained wide recognition and is being used extensively. Quite a literature has appeared on this subject, and the efficiency of the method in properly selected cases is proved by the high percentage of successfully induced labors. Mathieu, in a recent article, reported ninety-one cases, with successful results in 96.7 per cent and failures in 3.3 per cent. He did not have any mortality, maternal or fetal. Similar results are reported by various authors in the obstetric literature from all over the country.

I myself have been very enthusiastic about this method and have used it as a routine in all cases in which there was postmaturity or in which early induction of labor was indicated for other reasons. No exact records have been kept, but my results have been uniformly good. My distinct recollection is that in more than seventy cases in which this method has been used there were no untoward effects whatever on mother or child and success, as far as induction is concerned, resulted in about two thirds of the cases.

In the literature on this subject, mention has not been made anywhere of idiosyncrasies for quinine and its possible effects on the mother and her baby. Pharmacologies mention that idiosyncrasies for quinine occur, but state that they are very infrequent and are not of any especial significance; this, in spite of the fact that quinine is regarded as a protoplasma poison, which in some cases can give rise to severe reactions, with deafness, intra-abdominal, renal and subcutaneous bleedings, localized edemas and severe, scarlatina-like erythema.

Up to last year I had, fortunately, seen none of these severe reactions and was indiscriminately using quinine in my obstetric practice. Late in 1926, my first case of idiosyncrasy occurred with such violent skin eruption and edemas that my patient, for more than a week preceding birth and about three weeks afterward, was suffering very severely. As far as induction of labor is concerned, the quinine was unsuccessful in this case. One week later, spontaneous labor started and she gave birth to a normal child.

* Read before the Seattle Obstetrical Gynecology Society, June 14, 1927.
1. Gellhorn, George: Am. J. Obst. & Gynec. **13**: 779 (June) 1927.

My second case of idiosyncrasy occurred in April, 1927. The result here was so unfortunate and there is such a strong predominance of evidence pointing to quinine as the cause of the fatal outcome that the history is given in detail:

REPORT OF CASE

A primipara, aged 30, who had always been perfectly healthy, first came to my office four months before delivery, and was seen thereafter every three weeks until labor. The urine, blood pressure and blood were always normal. The Wassermann reaction was negative. She had good measurements. The expected time for delivery was the last of March. April 4, labor had not yet started, and as she lived out of town and was anxious to get it over with, and as all indications were that she was at term, it was not thought contraindicated to start labor in the usual way. About 3 p. m., therefore, she was given 2 ounces (60 cc.) of castor oil, followed by an enema, and two hours later she took 10 grains (0.65 Gm.) of quinine sulphate. She was not given any pituitary extract. I was called to see her in her home two hours later. She complained of a severe headache, ringing in the ears, deafness and slight dyspnea. I was told that shortly after she had taken the quinine large swellings had developed on her face and on the extremities. When I saw her, her eyes were almost closed. The skin was purplish red, with areas of dark bluish spots all over. There had been a sudden rise of temperature, which on my first examination was found to be 104 F. This temperature, however, quickly subsided, and on her admittance to the hospital several hours later there was no fever. She had slight labor pains. Fetal heart sounds could not be found anywhere in spite of repeated thorough examinations. The patient stated that shortly after the quinine had been taken she had felt distinct, strong repeated motions of the baby.

She was immediately taken to the hospital, where the urine was examined and found highly colored and concentrated, with a neutral reaction, a specific gravity of 1.030, a strong trace of albumin, and a slight amount of blood. Blood examination showed 3,180,000 red blood cells and 7,000 leukocytes. The blood pressure was 115 systolic and 70 diastolic. Labor progressed satisfactorily during the night. The patient's general condition was good, but fetal heart sounds or movements could not be determined in spite of frequent examinations. At 6:30 a. m., about eleven hours after the onset of labor and sixteen hours after the giving of quinine, she was delivered of an 8½ pound (3.8 Kg.) well developed, stillborn baby boy. A low forceps operation was done but without any special difficulty. There were first degree lacerations, spontaneous delivery of the placenta and normal postpartum bleeding. The amniotic fluid was canary yellow and somewhat turbid.

The further progress was uneventful. The patient was afebrile, and, with the exception of an intensely itching, desquamating dermatitis, lasting for about two weeks after delivery, there were no complications.

The postmortem examination of the baby was done by Dr. D. H. Nickson of the Swedish Hospital, who found that air had never entered the lungs. There was blood in both pleural sacs, in the pericardium and in the peritoneum. A section of the lungs did not show any evidence of pneumonia. The heart was anatomically normal. The kidneys were normal in size and shape, and the capsule stripped easily. A section of the kidney showed an acute tubular and glomerular nephritis. The gastro-intestinal tract was normal. The diagnosis was prenatal nephritis of unknown origin.

COMMENT

It is evident from these cases that the use of quinine in inducing labor is not entirely without danger. It is certain that, in a number of cases in which idiosyncrasy is present, most annoying symptoms in the mother may ensue, symptoms which, although not dangerous in themselves, are adding a great deal of discomfort to that already usually existing in the last weeks of pregnancy.

In view of this case, it would furthermore seem probable, although not conclusively proved, that quinine in a pregnant woman with an idiosyncrasy for this drug might cause fetal fatality. It is known that quinine is a protoplasmic poison, attacking preferably the cell protoplasma, and it is not improbable that this protoplasmic poison, circulating in the maternal blood and entering into the fetal circulation, might cause such extensive injury to the fine fetal cells that death would result.

It is my purpose in this report to sound a warning against the indiscriminate use of quinine for inducing labor. The pregnant woman for whom the drug is intended should always first be questioned as to probable idiosyncrasy and, when this is suspected or proved, the quinine should be omitted from the procedure.

Medical-Dental Building.

THE VALUE OF FUNCTIONAL RENAL TESTS PROPERLY INTERPRETED*

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During recent years, the study of the functional behavior of various organs has gradually come into its own, displacing in a measure the older studies based on the gross physical changes. The various systems of the body, such as the cardiovascular, the hepatic and the renal, have been approached more or less successfully by this newer method, which has led to numerous valuable advances. In no field, however, have these tests been so assiduously studied as in connection with kidney secretion; and the numerous tests elaborated for the study of kidney function have now been in use sufficiently long to enable one to evaluate their relative importance. Any one who has had an opportunity to follow this development in connection with kidney function carefully and regularly has seen the vast change that these studies have effected in the end-results of the various forms of therapy employed.

The study of the functional behavior of the kidneys by tests has been of great assistance not only to the urologist but also to the general surgeon and the gynecologist. Prior to their regular use, suburemic and uremic conditions were not recognizable before operation, and patients frequently succumbed to the surgical intervention (plus the anesthesia), passing into a state of profound uremia with oliguria or anuria. It is remarkable how patients may adapt themselves to poor renal function so that clinically they seem quite normal, whereas often even the slightest infection may be a terminal and a fatal one, even without an operative trauma. I have tested out all the important procedures, e. g., methylthionine chloride (methylene blue), Albarran's polyuria, phlorhizin, cryoscopy, Ambard's coefficient and MacLean's modification, and have found that the only tests that are reliable and simple to perform are the indigo carmine and the phenolsulphonphthalein excretion tests and the chemical analysis of the blood. All three of these may be used in every case, and during the past years I have performed many thousands of these tests with almost absolute satisfaction. My experience agrees with that of Wildbolz, that a good indigo output means a good functional kidney. The same applies to phenolsulphon-

* This paper formed part of a discussion of the Value of Functional Kidney Tests at the International Urologic Congress at Brussels, in August, 1927.

phthalein. But the difficulty arises in interpreting what a poor output of these substances denotes.

Slight variations in output in my experience are of no significance and I believe that they have been overemphasized, particularly by the internist. I have found the indigo test the most sensitive to changed kidney conditions; then comes the phenolsulphonphthalein test, and finally the blood urea determination (incoagulated nitrogen, uric acid, creatinine), the least sensitive to slight renal impairment.[1] In my experience, a minimal output of indigo or phenolsulphonphthalein may be present, therefore, without any blood urea retention; and this occurs most commonly in obstructive conditions (such as prostatic adenoma or stricture) in the lower urinary tract. By adequate drainage these dye excretions return, and the blood urea becomes quite normal provided the kidneys can be resurrected. If, on the other hand, they are not resurrectible in their function, these changes will not take place. In doubtful cases, one must proceed slowly, as the process of resurrection may be very slow and take weeks or months before an operation of any magnitude is permissible. Here one must individualize carefully, and the clinician's experience is the deciding factor as to when and how he must proceed.

In addition to these two classes of cases, there is another group in which the output is minimal or absent and the blood urea raised and in which one kidney is badly diseased, affecting by reflex or toxic influences the functional activity of the second adequate kidney. This is seen in unilateral infected hydronephrosis or pyonephrosis, and for years it has been recognized that primary nephrectomy in this type of case may be followed by fatal uremia. If a primary nephrotomy is performed, one sees with almost perfect regularity a return of adequate indigo, phenolsulphonphthalein excretion and a drop in the urea retention, and after a few weeks a successful secondary nephrectomy is borne without any danger of uremia, as the second kidney has come back to normal or almost normal functional value.

A fourth group of cases showing minimal or zero dye excretion is associated with bilateral kidney disease —bilateral nephrolithiasis (usually infected) and polycystic kidneys—and in these cases the greatest caution must be exercised, especially if the blood urea is high, lest one operate on kidneys that are irreparably injured. In this group, the most careful study must be made; and here again the knowledge of the surgeon really decides how far he can go, as in this group fatal uremia is always a possibility. The student of functional tests, however, appreciates the dangers which he is facing, whereas prior to these tests there was failure to realize how thin the ice was.

As the result of all this new insight, the least noxious anesthesia (even spinal or local) is now selected; operation is performed in stages, if required, and what used to lead to death now often makes for prolongation of life, even though complete restoration to health is impossible.

It must therefore be apparent that the use of indigo at cystoscopy, the use of phenolsulphonphthalein on the combined voided urines, and the control of both by the study of the blood have given invaluable data and have saved many lives.

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1. Beer, Edwin: Interpretation of Functional Renal Tests, Ann. Surg. 64: 434 (Oct.) 1916.

Clinical Notes, Suggestions and New Instruments

EPINEPHRINE: A METHOD OF PROLONGING ITS EFFECT IN ASTHMA AND THE DEPRESSION OF SHOCK

PRELIMINARY NOTE

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The evanescent effect of epinephrine hypodermically administered has proved a disappointment in the treatment of the type of asthma that is relieved by this drug.

In a paper by Luckhardt and Koppányi,[1] certain interesting observations on animals were reported. It was found in dogs that, when epinephrine hydrochloride was injected, massage of the region where the injection had been made was followed by a rise of from 15 to 180 mm. of mercury in from fifteen to seventeen seconds after the beginning of the massage. There was a return to normal from ten to fifteen minutes later. If the massage was immediately repeated a weakened response appeared, but after a rest of one-half hour or more the response was again almost or quite as pronounced as it had been directly after the injection. This result can be produced at intervals as late as nineteen hours after the original injection. These experimenters demonstrated the presence of epinephrine in a saline extract of the injected tissues so long as the massage was positive.

On reading this article it occurred to me that one might make use of this phenomenon in the treatment of asthma.

My first test was in a woman on whom I had operated for tuberculosis of the lungs by thoracoplasty and by drainage of a large pulmonary cavity. Between two and three years had elapsed since the last operation and the patient was up and about. Asthmatic attacks were prominent and distressing. They had been relieved by injections of epinephrine but only for short periods.

An injection into the subcutaneous tissues over the left deltoid was made, the dose being 5 minims (0.3 cc.) of epinephrine 1:1,000. For nearly forty-eight hours the patient was able to relieve asthmatic attacks by massaging the deltoid region and this entire experiment, of injection and massage, was repeated several times.

In a second case, also tuberculosis with operation by thoracoplasty, an attack of asthma with loud musical râles in the better lung occurred. Here, also, the effect was most gratifying. Observations on the blood pressure were made, and the results obtained were similar to those reported by Luckhardt and Koppányi. The initial reading of 120 mm. of mercury before injection rose to more than 130 on massage, about forty-five minutes later. In several hours this massage was repeated by a member of the house staff at Mount Sinai Hospital and, being of a skeptical nature, he massaged also the outer portion of the thigh without effect but obtained a rise of from 7 to 10 points on massage of the deltoid region.

In a third case, similar to the other two, a woman, aged 30, in whom the asthmatic attacks were very severe and had preceded the recognition of the tuberculosis, obtained considerable relief by this treatment. Her physician, Dr. Joseph L. Spruill of the Guilford County Sanatorium, North Carolina, writes, of her case, "We have been using the adrenalin very successfully." No blood pressure tests were made.

In one other patient, a young man, also tuberculous, no relief followed the use of epinephrine nor was there any hemodynamic effect even after the initial injection. I have not had the opportunity of observing the effect of epinephrine in cases of so-called spasmodic asthma not associated with pulmonary phthisis.

I have also had one opportunity of applying this method in shock following an operation for perforated duodenal ulcer in the practice of Dr. David Mendelsohn of Paterson, N. J. There was great depression with ischuria and extremely low arterial tension, 75 systolic and 0 diastolic. The abdomen was soft and there had not been any evidence of abdominal infection. The arterial tension had risen to 82 systolic and

1. Luckhardt, A. B., and Koppányi T.: Proc. Soc. Exper. Biol. & Med. 23: 774-776 (May) 1926.

50 diastolic when I first saw the patient. Immediately after the injection of 5 minims (0.3 cc.) of epinephrine hydrochloride, the systolic pressure rose 10 points and the second cardiac sound, which had been almost or quite inaudible before, clearly returned. An hour later the depression had recurred but the tension rose 10 points on massage of the injected area.

My excuse for bringing these meager facts before the profession is the desire to stimulate further experiment and inquiry into the effect of epinephrine thus employed in asthma, in shock and in other conditions in which this drug as usually administered has a salutary effect. It might also be worth while to investigate this action in other internal secretions as, for example, those from the pituitary body.

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PRELIMINARY REPORT ON SODIUM NITRITE THERAPY IN SEASICKNESS *

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During a study of the effects of blood pressure on the labyrinthine function, we were impressed by the depressant effect of sodium nitrite on the vestibular responses. The results of these studies are in process of preparation for publication. In these studies it was shown that by lowering normal blood pressure to between 95 and 105 mm. of mercury the nystagmus after rotation was greatly diminished, and past pointing was also much diminished and even disappeared entirely in some instances.

Believing that seasickness is due mostly, if not completely, to overstimulation of the vestibule, we felt that the nitrites offered a direct attack at the long sought but never attained cure for the terrible malady of the ocean voyage. Consequently, as one of us (D. B. H.) was about to cross the Atlantic, we decided to put the theory to the test. Fate was against us on the trip across for no one suffered mal de mer. On the return trip there were sixteen suffering from seasickness. They were all given one of the usual treatments; namely, subcutaneous injections of epinephrine hydrochloride. For our test the patients were divided into two groups, eight to serve as controls and eight to have nitrite treatment. The groups were chosen with the effort to have them as equal in symptomatology as possible. The members of the control group were prostrated on the average two days, and there was not much variation from that period. The members of the other group were given from 3 to 5 grains (0.2 to 0.3 Gm.) of sodium nitrite every two hours until they experienced relief. The average period of time before the members of this group were free from ocular nystagmus, vertigo, ataxia and nausea, and were comfortable on deck and able to eat meals was four hours! These persons did not suffer from any recurrence of symptoms.

Although this work has a sound experimental basis, the actual tests having been adequately controlled and 100 per cent of cures obtained, we expect to use nitrites in a much greater series before drawing final conclusions. We are certain that they will cure many cases of seasickness but it is possible that there are cases that will not be cured.

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Anatomy: Theory and Practice.—Theoretically the study of human anatomy might just as well have been incorporated in the schools of art, but it was not to be, and, from the sixteenth century until today, the cultivation of the science of anatomy has occurred almost exclusively in the medical schools. It is only within our own day that those teaching and studying this subject and widening its boundaries have not at the same time been engaged in applying remedies, healing the sick.—Cole, Rufus: *Science* **67**:48 (Jan. 20) 1928.

Special Article

THE SOUL OF THE CLINIC

FRANCIS W. PEABODY

[NOTE.—During the latter weeks and, indeed, days of his life, Dr. Francis W. Peabody set down on paper in a letter to a friend his conception of the relationship and responsibilities of the Medical Chief to his Clinic. Though he felt that it was not entirely complete in certain details, he finished the first draft and wrote the last sentence the day before his death. The letter has been read by many of Dr. Peabody's friends, who have been deeply affected by his broad and clear vision of this complex problem and have been profoundly impressed by his beautiful exposition of what must be called the "soul" of the clinic. His friends feel that the letter is too valuable to remain as a private possession and should be made available to the medical profession. The document is being published, therefore, as it was written, a letter to an intimate friend in answer to sympathetic correspondence and discussions.—ED.]

Thank you so much for your good letter. Of course you are altogether too kind in what you say about the clinic at the Boston City Hospital and the part I have played in its development, but you set me up and stimulate me to write you at some length about the problems that many of us who are teaching clinical medicine have on our minds—Whither are we tending and what ought our aim to be? I have tried recently, without much success, to formulate a very brief statement as to the type of clinic I wanted to develop at the Boston City Hospital and I am glad to be encouraged to try my hand at the subject rather more in detail. First of all I do not think we can or should all aim at having the same type of medical clinic. This must depend in part on local conditions. Thus you, in a university hospital, completely under your own control, have a very different problem and will produce something quite different from what I, a cog in a great municipal hospital, can produce. Each has its advantages and its disadvantages. In part, moreover, the type of clinic will reflect the personality and interests of the chief, and the whole character of the clinic may alter when a new chief is put in charge of it.

One of the first problems to be considered is the kind of man who ought to be selected as professor of medicine. I quite agree with you that the requirements which are now generally put forward are so impossible to fulfil that they become almost ludicrous. May we perhaps take pride in the fact that we have been called to fill the shoes of such supermen even if we do rattle around in them! When a professorship falls open, the committee in charge of filling the position usually says somewhat naively that it is looking for a man who has had an intensive scientific training, has done important research, is a good administrator, is a competent teacher, and finally has had clinical experience. We have heard this string of specifications so often that they are becoming rather hackneyed. Such a man is, of course, almost impossible to find, and I have been wondering where the ideal originated. I think it results from the fact that in recent years—since what we may call the Reformation—the selection of professors of clinical medicine has been more and more influenced by laymen and by professors of nonclinical subjects. Both may be excellent pedagogues and experts on education and yet fail to grasp the difficulties and complexities which confront this particular type of position. Thus the administration of the department of medicine, with its large teaching and clinical staff, its responsi-

bility for the welfare of a considerable number of patients, its interrelations with the hospital administration and its subdepartments (social service, dietetics, physical therapy) is a very different thing from the administration of a department of physiology or biologic chemistry. It is all very well to say that the professor should delegate most of his work to others, but you and I, who are practical laborers in the vineyard, know that this does not work and that actually the chief must do it himself if the department is to run smoothly. "Clinical experience" is apt to be put last among the specifications. This is because some of our friends think that clinical medicine can be "picked up" very easily by the prospective professor, while others believe that if a man is well trained in such sciences as chemistry, physics and physiology he has only to learn the technical clinical methods of percussion and auscultation. Clinical medicine is to them little more than the application of these sciences to the sick patient, which is comparatively easily acquired. As a matter of fact, however, we know that clinical medicine is a subject which is to be mastered only by years of long, hard experience, and if any of the members of the committee to select a professor were taken sick and were to be under his care, I am pretty certain they would rate "experience" higher. The argument actually put forward, that the professor need not be much of a clinician because some one else can tell the students how to take care of patients, is weak and beside the point because it begins by accepting as insignificant what is a very important function of the department.

I believe that the primary function of a department of medicine is to teach students those things that will enable them to practice the best contemporary medicine and will give them a foundation on which to superimpose the advances that will come during their professional life. They must be taught medicine as a vital expanding subject, and must be stimulated to keep abreast of its growth. If it be true that preparation of students for a career in clinical medicine, and more specifically for the practice of medicine, is the first duty of a department of medicine, then it seems clear to me that the backbone of the clinic is the general ward and the outpatient department, for it is here that one finds or can readily create conditions which most closely resemble those which are found in actual practice. In order to preserve this backbone intact I have always hesitated to encourage the development of wards and departments for special groups of patients. This is, of course, necessary to some extent both for intensive training and for research, but it should not be done at too great expense to the general ward lest the general ward come to contain nothing but what are regarded as "uninteresting cases," and the idea of specialization be instilled in student and staff too young. After all, "intensive training" does not involve the study of many patients of a group at one time, and the rest can be left in the general ward, which should be as exciting in its variety and unexpected manifestations of disease as is the actual practice of medicine.

If the general ward is the backbone of the clinic, then the head of the clinic must be close to it; indeed, it ought to be directly under him. The importance of the general ward and what it stands for as representing the general practice of medicine can be impressed on the younger members of the staff and on the students only if the relation of the chief to the ward is real and not fictitious. The whole atmosphere of the general ward, and thus the attitude of the future practitioners to the profession of medicine, is here set by the chief of the clinic, for it must always be remembered that standards of thought, as well as of action, are set from above. If the chief has any conviction as to the relation of doctors to their patients, to scientific research, or to any other aspect of his profession, this is his opportunity to bring it out, and in so doing he will determine the character of the clinic. The growing tendency for the chief to delegate ward authority and responsibility to his assistants, and to "spare himself" from making ward rounds and doing ward teaching, seems to me extremely unfortunate. The wards may be run as well or better, but the dignity of the general ward becomes impaired in the eyes of staff and students just as soon as the chief separates himself from it. This is one of the reasons that I have not adopted the usual plan of having a resident staff over the intern staff in the general wards. I want the interns to learn to assume responsibility for the patients and then to come directly to the chief with their problems, rather than feel that they can take things up only with subordinates. This arrangement leads directly to a consideration of the status of the interns. On this point I feel very strongly. They should be regarded as advanced students, and as perhaps the most important group of advanced students that we have. They come with minds, characters and personalities in the most pliable and receptive states and can be affected in an extraordinary degree even by the atmosphere of the clinic. Their very manner of dress and parting their hair changes. Social ease, and manners that will play a large and legitimate part in medical practice, develop. At the same time intellectual changes of a far deeper character are going on, and the chief has an opportunity to set his seal on them. Provided the chief has anything in himself to offer, here is his chance to turn out every year a group of selected men who shall represent his ideas and his clinic all over the country, and it is to be hoped that they will gradually affect the type of medicine in many remote communities. Again, however, this cannot be done as successfully through subordinates as if the chief undertakes to keep himself close to the interns. It takes time, but it seems to me that the results are well worth striving for.

This does not mean that all the subordinate members of the staff, including (with rare exceptions) those whose time is largely devoted to research, should not undertake direct responsibilities for the ward routine. I believe, indeed, that such responsibilities form a very valuable part of their training—so much so that the men must be made to assume them even if they are reluctant and prefer to stick to their research. This can usually be arranged for in the vacations and at such times as their research is not at a critical point. It is very easy for a man to get absorbed in his own little problem or in the somewhat larger field of which this is a corner and he neglects the opportunity to get a training in internal medicine. At the present time there are many men who have been associated with American clinics for several years and who have had only the narrowest contact with medicine as a whole. Few of the men who become members of our departments of medicine will become stimulating teachers and still fewer will ever do important research work, but almost all can be made into first class clinicians. This is in itself a very important contribution, for the majority of the staff are eventually going to practice medicine, and the chief should do his best to see to it that every one who has been attached to his staff for

three or four years has at least made a good start at becoming a high grade internist, as well as being an expert in some narrow field of medicine. The necessary training is, of course, best attained by assuming actual responsibility in general wards, and very often the men have to be driven, almost by force, from their own laboratories to take up what is sometimes spoken of a little casually or even cynically as "ward routine." Here, again, the example of the chief is vital.

One further point with regard to the general ward. I have spoken of it as the backbone of the clinic because it represents general practice, which is the backbone of the medical profession. It is proper, therefore, that it should be the meeting place of those who devote themselves to different fields of medicine, and here the active full-time practitioner should come in contact with the man who is devoting most of his time to research and teaching. In clinical teaching the active practitioner of internal medicine plays a very important rôle, and he should receive positions and titles corresponding in dignity to the contribution he makes. These conventional details must not be neglected for they help to make clear to the staff that the work of the practitioner is going to be completely recognized by the school. In my own mind there is no question but that the man whose practice is largely outside the hospital can bring something to students and staff that it is difficult for the man whose practice is largely inside the hospital to bring, and several years of experience have confirmed this view. On the other hand, the practitioner should also get a stimulus from contact with the research which the hospital group is carrying on. In the Boston City Hospital Clinic, representatives of the two types of men alternate in making ward rounds during the school term and, as far as possible, the same plan is continued by the younger men in the summer. Curiously enough, it has seemed to me more difficult to find enthusiastic, competent clinical teachers among the practitioners than in the hospital group.

Research should always be regarded as one of the activities of teaching clinics. Such clinics are usually relatively well equipped in the way of laboratories and endowment, and the very fact that the laboratories are closely associated with the wards gives an exceptional opportunity to the staff and thus places a responsibility on its members for the investigation of disease. It is fair to assume that a large part of the progress that will be made in our knowledge of the diagnosis and treatment of disease will come through the medical clinics even if much of the fundamental work on which this practical advance is based is the outcome of investigations which have been carried on in the laboratories of so-called pure science. (As a matter of fact, it has interested me recently to see how frequently the clinical investigator, studying a problem in disease in man, is forced to go back and tackle the most fundamental aspects of it—anatomic, physical, chemical—because the necessary facts have not been made available by workers who specialize in these various fields.) Research should also play a part in the clinic because it is a type of training which develops critical judgment, and even a limited experience in a research problem, undertaken under skilled guidance, is a valuable discipline for every one, including the man who subsequently goes into practice, for among other things it teaches him to estimate the worth of the publications of other men. Finally, it is generally true that the investigator is a more stimulating teacher than the man who is not actively laboring at the forefront of scientific advance.

By what members of the staff should research be actively carried on? The strictly clinical group, engaged largely in outside practice, should be encouraged, but, of course, one cannot expect that they will produce much, as they do not have the time or the sense of leisure that is necessary for research. If any of them produce an occasional clinical study, they are to be congratulated. This must not be considered to be their field. The younger members of the hospital staff, residents and assistants, should all take part in some research problem, but as they are apt to be almost wholly untrained they can be regarded only as extra hands at the beginning. They receive a training that is of utmost value to them personally, particularly if they are, as they should be, under the personal supervision of an experienced investigator; but one cannot anticipate that they will make important contributions. Experience has made it clear to me that one of our common errors is to expect too much of these men in that we allow them to work too independently both for the good of their own training and for their productiveness. With rare exceptions few men are qualified either technically or intellectually to carry on clinical research of any great importance until they have had several years of experience in laboratory work and in the study of disease in the wards. This means that it is only the older members of the medical staff who may be expected to undertake continuous problems of any particular significance and it accentuates the importance of providing adequate salaries for assistants who are five or ten years out of school. These are the men who can plan for prolonged periods of time devoted to one problem, and they will also be the men to guide and train the recent graduates. Of course, even among the selected groups of older members of the staff there will be few who will produce research that is important in itself, for in any field high grade investigators are unusual. In general, one can only expect good solid research of a more or less routine character. Such work is, however, not to be depreciated as it plays an important part in keeping up the tone of the clinic and in the long run advance in our knowledge of disease probably depends as much on this type of conscientious, honest investigation as on the gifted researches of brilliant geniuses.

What is to be expected of the chief in the way of research? One hears a great deal about research ability as a qualification for the professor of medicine and about the necessity of his carrying on research personally while he occupies the position. Capacity for high grade research is so rare a quality in itself that it will always be almost impossible to find it combined with the other qualifications demanded of a professor of medicine. Ability to do good, conscientious, independent work, interest in stimulating and assisting others to carry on research, and an appreciation of the rôle that research plays in the medical clinic are more important than great personal research genius. The professor must keep in close touch with the work of his staff, guiding where he can, suggesting and encouraging, and he should always try to keep up some independent work if only for his own intellectual satisfaction so that he may set an example to the staff and may have some little field in which he excels his assistants. Even if he had great ability as an investigator he could not expect to accomplish much, as the multifarious demands on his time make it almost impossible to obtain the sense of leisure which thought-

ful work requires. Indeed, I feel that if a man really has this rare gift he ought not to be the head of a department of medicine lest his talent be wasted.

One may reasonably question whether the large proportion of the budget of the department of medicine that is devoted to research and the great stress that has been laid on research ability in the selection of teachers is entirely justified when one considers that much of the research output is of a routine nature and that really significant research is unusual. My personal feeling is that it is justified, although I think the pendulum has swung too far in the matter of choice of professors. Here there is a very unfortunate tendency to pay too little attention to broad clinical experience, something that is acquired only by many years of hard work and too much attention to research ability, or, what is worse, to the possible development of research ability in some promising young man. The publication of a number of good papers does not really indicate any marked capacity for investigation, and such papers certainly offer limited evidence of ability to run a department of medicine. Even in the preclinical laboratories and research institutes the proportion of research that is very noteworthy is not always particularly high, and, when one considers all the other functions required of the men in the department of medicine, I think that we may be rather proud of what they are accomplishing.

There is a common tendency to attempt to select assistants in a department of medicine whose training represents the different preclinical sciences, physiology, organic chemistry, physical chemistry, physics, bacteriology, so that one may have a well rounded clinic. There is obviously much to be said in favor of such a plan as it helps to bring together an experienced group of "scientists"; but there is also an inherent practical danger which I am sure we all have observed and to which more attention should be paid. These men, thoroughly trained in one direction, quite naturally look for their research problems in the fields in which they are trained. They seek the problem to suit their particular tools. This must necessarily be the attitude of workers in a fundamental science when they attempt to study a clinical problem, and this may explain why they often are not more successful in formulating and working out problems involving a knowledge of disease in man. The approach of the internist to the study of disease in man should be quite different. He is, first of all, absorbed by an interest in the problem and then seeks the type of tools necessary to solve it. This is the intellectual, rather than the technical, method of approach. Once given an absorbing passion for the solution of a clinical problem, the man who has a good general scientific training can usually acquire in a few months or in a year or so enough of any of the fundamental sciences to enable him to tackle it. The clinical investigator, with his knowledge of disease in man, thus finds the problem first and determines the practical way to study it, turning to his colleagues in the fundamental sciences especially for technical experience. We often discuss what the difference is between the function and opportunity of the man who is primarily a "scientist" working on a clinical investigation, and the man who is primarily an "internist" using methods of exactly the same highly refined nature, and also working on the same general type of investigation. The real difference is, I think, to be found in the point of view of approach. The medical clinic should encourage its staff to use methods of any sort, no matter how difficult or specialized, that are needed for the solution of their immediate problems; but their first interest should center about the general subject of disease in man. The first interest of the "scientist," on the other hand, is in the development of his own particular field. Each has his proper rôle, but in the medical clinic it is better to have an inspired "internist" than a skilled "chemist."

The administration of a department of medicine, with its complicated relationships and responsibilities toward a large group of various types of men, to the students of three classes, to interns, to the medical school administration with all its subdivisions (wards, social service, outpatient department, dietetics and other clinical departments), to patients and their families, and to laboratories, represents a problem which is unapproached in any other department of the medical school with the possible exception of that of surgery. One frequently hears it said that if the chief is a good administrator he will divide all this work up and put it on the shoulders of his assistants. To a certain extent this is possible and is, indeed, absolutely necessary; but experience has shown me that beyond a certain point it is unwise to do so and the major part of the administrative responsibility must be assumed by the chief. The representatives of the medical school, the superintendent of the hospital, the chief of the roentgen-ray department, the assistant in charge of the chemical laboratory, all want to deal directly with the chief; and the smooth running of the clinic demands that they shall. But to my mind it is not only to these dignitaries that the chief must leave his door ajar. How often one finds interns and students lurking outside the office waiting to catch the chief as he hurries by. "Can I have five minutes with you, sir?" You let him in, sit down, and find that what he has approached so modestly is the problem of his whole career; and who can tell whether it may not be a career with very significant possibilities? Is there, on the whole, anything more important than giving advice about a man's life? Of course, a first class administrator might say, "Tell him to return next Tuesday at 2:30, at the time appointed for such conferences." All right; but usually the youth has worked himself up and is full of his problems now, and it is *now* that you can help him most. We hear a great deal about the necessity of the professor "closing his door" and "protecting himself." I fear that some of this "protection" is made necessary by the fact that our professors are apt to be rather inexperienced, and they have to get their training after they get their job. The real question is whether the professor ought to devote himself to looking after his own career or whether he ought to regard as his first duty that of stimulating, helping and advancing his assistants. Of course, this is largely a question of personality; but there are so few men whose research ability is extraordinarily valuable (and, as I have said, they ought not to be professors of medicine) that I believe in general in the "open door policy." This is, at any rate, the policy that best suits my temperament and capacity. I have always attempted to keep some of my own work going, partly through assistants, and, so far as I can, with my own hands (although this comes more and more to what can be done in the summer vacation) for this is what keeps me alive intellectually and is where I get my real fun. On the other hand, I feel that probably I accomplish most in the long run, not by protecting myself too closely, but by accepting as my major function that of helping my students and assistants. Much greater contributions to the advance-

ment of medicine will come from the training of these men than through my own individual efforts.

In all this lengthy letter I do not think I have once used the phrase "full-time" as applied to a clinic or a teacher. This is partly because I have become as tired of discussions of "full-time" teaching as I am of discussions of the Eighteenth Amendment, and partly because I do not think the issue is any longer of importance. There was a time when discussion of the system had a distinctly healthy effect on the teaching of medicine in America; but the whole situation is altered. A complete "full-time" system is impossible from an economic point of view even if it were desirable medically, which I do not think it is. Experience has made it perfectly clear that the men who are in successful outside practice have something very definite and important to contribute to the teaching, and, as already indicated, they must be regarded as an integral part of the teaching service and receive proper recognition in the way of titles, salaries and clinical opportunities. I am, moreover, also convinced that it is not desirable to have any hard and fast rule as to the members of the hospital staff having private patients. For many, if not for all, it is desirable that they should have a few patients of their own, with whom they have the same relations that one does in outside practice. Occasional consultations, even outside the hospital, office practice and a few private patients in the hospital form the basis of a valuable experience for the teacher and investigator; but, of course, his other work will not allow him to assume the care of sick patients in their homes. There is no question in my own mind that I am a much better teacher for having had a limited number of such patients in recent years. These are the patients to whom I talk at length personally, and they are apt to be the cases that stick in my mind so that I refer to them continually in talking to students. One can always say that the same thing may be done as well if the patients belong to the clinic and if, for instance, their fees are paid to the clinic; but I fear I do not agree to this. If they had been the patients of the clinic I should have had most of the work done by my assistants and I should have missed exactly that personal relationship with patients which many people say cannot be obtained in a hospital. If, however, I have been continually confronted with these personal relationships of practice, even though it be with few individuals at a time, it is much easier for me to keep accentuating their importance in the course of my work in the ward. In all of this, moreover, I do not believe that I am very different or more sordid in attitude than most men. It is not wholly a question of to whom the fees are paid (often there are no fees), although this certainly is a factor in establishing and maintaining the personal bond. The main point is that the patient has sought you or me personally and not the hospital.

In the last analysis, the whole problem resolves itself into what kind of men you select for the hospital staff. If they do the type of work they are expected to do, they can never see more than a very few private patients—fewer, indeed, than come now to the private wards of some "full-time" clinics. If they want to see more patients they must be transferred to the clinical staff. Practically, the issue has seemed to me to solve itself without presenting any great difficulties and without resorting to an overorganization that limits the freedom of the individual. What we want is less of the system and law that kills and more of the spirit that gives life.

Council on Pharmacy and Chemistry

REPORTS OF THE COUNCIL

THE COUNCIL HAS AUTHORIZED THE PUBLICATION OF THE FOLLOWING REPORT.

W. A. PUCKNER, SECRETARY.

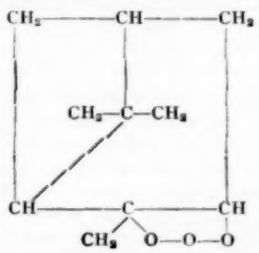
Articles Not Acceptable

TERPEZONE

Report of the Council on Pharmacy and Chemistry

According to the information submitted by the Knox Terpezone Co., "Terpezone" is produced by passing a mixture of ozone and pinene vapor through a "combined chemo-electrical generator of a highly specialized nature."

I. *Mode of Preparation and Chemical Structure of Terpezone.*—It is said that Terpezone is a pinene ozonide having the chemical formula $C_{10}H_{16}O_3$, and the structural formula



The chemical work, said to have been done by Dr. J. M. Nelson in the Chemical Laboratory of Columbia University, New York City, was not presented to the Council over the signature of Dr. Nelson, but in abstract in the report by the late Dr. H. B. Waters, senior instructor in phthisiotherapy of the Post Graduate Medical School and Hospital of New York City. In reply to an inquiry Dr. Nelson stated that he had been asked by a Mr. Knox to help in determining the chemical nature of some vapors which are found when ozonized air is passed through turpentine; that they had set up some apparatus and prepared some of the vapor but found it difficult to collect it in sufficient quantities to study. He further stated that he had written a report to Dr. Waters in which it was stated that they had not succeeded in definitely deciding the chemical nature of the vapor, but that it appeared to be pinene ozonide. The Knox Terpezone Co. did not submit a copy of this report to the Council, and in view of Dr. Nelson's letter it appears that the firm's positive statement as to the composition of Terpezone is not warranted.

In the request for consideration of Terpezone, it is stated by Mr. Rogers, the president of the Knox Terpezone Co.: "Chemically the ozone molecule has been encapsulated, by this process, in the pinene molecule, and the destructive and highly iritating (oxidizing) properties of ozone held in suspension until such time and place when and where the combined (neutral) molecule comes into contact with that for which it has an affinity (such as a vegetable micro-organism) at which moment it breaks down, the ozone thereupon exerting its full strength and oxidizing power upon the vegetable matter." As regards identity and purity, the following statement is made by Mr. Rogers: "Identity, purity and strength are determined by the care exercised in its production. A pure grade of ozone is produced, while many years have been spent in securing the proper turpentine and having it scientifically treated to produce the highest and best grade of pinene. Valves are employed in the air circuit to control the proportion of pinene vapor to the ozone, which should never be under control or manipulated by the patient or other than the physician or trained representative of this company."

II. *Evidence Submitted for Bactericidal Action of Terpezone.*—Brief tests are submitted from the Cutter Laboratory, Berkeley, Calif., from the Western Laboratories, Oakland, Calif., from T. H. Walsh, M.D., of Yonkers, N. Y., A. J. Bennett, M.D., instructor in bacteriology, Bellevue Medical College, and a more extensive report by A. R. Balls, Ph.D., of the Department of Bacteriology, Columbia University, New

York City. These reports are unanimous to the effect that various bacteria, pathogenic and nonpathogenic, are inhibited and finally killed by Terpezone vapor when subjected to it for periods varying from one-half to three hours. In none of these experiments is the concentration of the terpezone in the air given. Dry and moist cultures of the organism are subjected to the test. The gas of the Terpezone appears to be noninflammable. In two of the reports observations are made on a few rabbits, guinea-pigs and one canary bird as to the toxicity or nontoxicity of the vapor on these animals. Only acute effects were looked for and the reports are unanimous on the point that no toxic effects were observed.

III. *Evidence submitted in Favor of the Therapeutic Value of Terpezone in Various Diseases.*—Dr. B. H. Waters, A.M., M.D., senior instructor of phthisiotherapy in the Post Graduate Medical School and Hospital, New York City, in a very lengthy report summarizes his studies on twenty-one tuberculous patients treated with Terpezone produced by the Terpezone generator of the Knox Terpezone Company. These twenty-one patients are said to have been in the second or third stages of tuberculosis, and tubercle bacilli were demonstrated in their sputum. The periods of observation varied from nine days to nine months. Most of the patients were hospitalized in New York City or in sanatoriums in the country. The patients were in bed or up and about as condition permitted. "No other treatment was given, except cathartics and heroin or codein occasionally. In some instances Ovoferrin was used to study the behavior of the hemoglobin and in those patients exhibiting extremely impaired nutrition Sanatogen was added to the diet. The latter consisted of three wholesome meals daily and one raw egg in one glass of milk twice daily." According to Dr. Waters' report treatment of these patients with Terpezone increased the erythrocyte count and hemoglobin percentage, increased the leukocyte count in cases in which this was low, and reduced it in cases in which it was high. The cough decreased, expectoration became more easy, and the sputum more fluid. The patient improved, as shown by reduction of temperature and gain in weight. The Terpezone proved nonirritating and nontoxic to the patients. It should be noted in connection with this report that no control groups were run. One patient was hospitalized for a period, however, before Terpezone was given and the rate of improvement during this hospitalization and no Terpezone regimen was as marked as after Terpezone was added.

A series of cases was reported to John Blake, M.D., health commissioner of the city of Baltimore, by reports signed by R. T. Hardy, M.D., in which Terpezone was used on diphtheria carriers, in active diphtheria cases, nasal and pharyngeal, etc. In every case of active diphtheria, diphtheria antitoxin was also given in addition to the use of Terpezone. These reports, therefore, cannot be used as evidence, as another known effective therapy was used and there were no controls in the entire group.

Other reports on the use of Terpezone in a large number of conditions are from M. O. Lundell, M.D., New York City, G. B. Furness, M.D., of Visalia, Calif., and J. A. Black, M.D., Cleveland. These do not constitute acceptable evidence since in no case were any controls used.

According to the report by Mr. Rogers of the Knox Terpezone Company, five of the Terpezone Generators were placed for three years in the Metropolitan Hospital tuberculosis ward, under the direct charge of Dr. E. D. Klots. It appears from the records submitted that Dr. Klots kept the results of this treatment secret although tried apparently on many hundred patients and that Dr. Klots subsequently sought and obtained a patent of his own for a machine to administer Terpezone. A letter from Dr. Klots to the Terpezone Company, dated Oct. 22, 1914, is submitted showing that Dr. Klots proposed to submit his information as to the value of Terpezone in tuberculosis and to join forces with the Terpezone Corporation for commercial exploitation of Terpezone for a cash consideration of $600 and $5,000 worth of stock in the corporation. In the *Medical Record* for July 13, 1912, Dr. E. D. Klots in discussion of a paper by Dr. Waters on the results of Terpezone therapy in tuberculosis is reported to have remarked: "The nurses and interns said that it caused a slight conjunctivitis and slight constriction of the chest, both of which soon passed off. Observations on patients in this ward showed that there was marked improvement in the blood count and an inclination for the blood to assume a normal relation between the cells . . . no case of albumin or any apparent disease of the kidneys. In a large proportion of the cases there was an increase in the total output of urine. Twelve out of sixteen patients still retained the tubercle bacilli. . . . The weight increased in eight cases out of sixteen. In most of the cases the cough was less at night and the patients got up feeling better in the morning."

IV. *Some General Claims in the Petition for the Acceptance of Terpezone and in the advertising signed by Mr. Rogers, President of the Corporation.*—"Terpezone is not a medicine. It cures diseases by chemical means. It destroys by oxidation the germs which cause disease while at the same time it purifies the blood stream giving the patient renewed vigor to combat such disease. . . . As Terpezone is the purest air possible to produce, continuous inhalation without interruption may be administered, for weeks, the only discomfort being the confinement to the room where the generator is in operation." "Mr. Knox [the inventor of Terpezone] was so impressed that he began a search, which resulted, after many years, in the production of a respirable germicidal vapor, artificially produced, but many times stronger than the 'rarified atmosphere' but identical in every other way, with the atmosphere of the pine forests of Saranac or the Rocky Mountains. . . . Terpezone is a 'respirable germicidal vapor,' three words which mean more for the relief of human ills than any others in the English language. . . . Terpezone . . . destroys all disease germs and is harmless to organic tissue. . . . If a person has any faith in pure air treatment for affected lungs, he MUST endorse Terpezone for IT IS THE SAME THING. . . . It is readily conceived with what rapidity such a substance would destroy the organisms causing disease or discomfort in the respiratory tract, through all portions of which the vapor permeates upon the first inhalation. It reaches the germ which causes sinus as well as the pneumococci in the bronchial tubes, the B. diphtheria in the throat or the infection in the lungs, regardless of the name by which the invader may be called. Identification is unnecessary if the germ can be destroyed and expelled from the system without it. Sinus has been entirely eliminated in a few hours, while pneumonia succumbs in a very few days, the symptoms being, in the latter case, immediate increased expectoration and diminution of toxemia . . . The patient by whose bedside a Terpezone Generator is installed at once begins to breath a life-giving, disease prohibiting atmosphere. He or she is not taking medicine. . . . Perhaps the most important result achieved by Terpezone is its action on the blood. It regenerates and purifies the blood stream. . . . When ozone comes in contact with that for which it has an affinity—such as a vegetable microorganism—*nascent* oxygen is formed. The word 'nascent' means, literally, 'being born.' That extra atom of oxygen is liberated at the instant and at the place desired—the fatal meeting with a germ—and no harm is done except to that which it is highly desirable to destroy. . . . It is not necessary for children to have scarlet fever, whooping cough, measles, or any other disease caused by germs. The remedy is simple. During sleep or play have him in an environment in which no germ can survive, for at least an hour each day. Based upon the highest authority it may be stated that our Terpezone Boy will be immune from any disease as long as he can be kept for one hour per day in such environment."

It is not necessary to point out the exaggerated or actually false claims in the above quotations, though no one can deny the possible therapeutic action of volatile pine oils. However, the information presented in favor of Terpezone certainly does not establish its identity, purity or its therapeutic value. The Council is therefore obliged to declare Terpezone unacceptable for New and Nonofficial Remedies because no satisfactory evidence is presented to show that Terpezone is pinene ozonide or that in the manufacture of the product the formation of injurious by-products is controlled or prevented; because the claimed harmlessness of the product is not established, and because it is marketed with unwarranted and exaggerated claims of therapeutic value.

STATE BOARD STATISTICS FOR 1927

ANNUAL PRESENTATION BY THE COUNCIL ON MEDICAL EDUCATION AND HOSPITALS OF THE AMERICAN MEDICAL ASSOCIATION OF RESULTS OF STATE BOARD EXAMINATIONS

On pages 1200 to 1203 will be found table A, which gives in detail the results of the various state medical license examinations held during 1927. All state boards sent in reports, and the statistics are complete. The majority of graduates take the examination in the state in which the college is located, as shown by the dark diagonal zone of figures passing from the upper left to the lower right corner of each table. The marginal numbers enable one to follow readily the line for any college.

Graduates Examined in 1927

Table A shows the results for all candidates who took the examinations in 1927 and shows that 5,455 candidates were examined, or 344 less than in 1926. Since 1906 and until 1919, the decrease in the totals examined occurred, as was expected, owing chiefly because of the general reorganization of medical education and the decreasing numbers of students and graduates. Since 1918, however, there has been a constant increase, except in 1922, when the smaller war class graduated. Since 1922 there has been a general increase until the last two years. Of the 5,455 examined in 1927, 387, or 7.1 per cent, failed, as compared with 467, or 8.0 per cent, in 1926.

There were sixty-nine medical colleges in the United States granting degrees in 1927 which had graduates examined. This is eighty-four less than in 1905, when graduates from 153 medical colleges were examined. The statistics regarding schools that have ceased to exist are included in the line for "miscellaneous colleges."

Applicants Examined from Canada and Abroad

Graduates of Canadian medical schools were examined last year in thirty-one states. Last year 255 were examined, as compared with 305 in 1926, 319 in 1925 and 212 in 1924. The largest number, sixty-four, were examined in New York, the next largest number being forty-two examined in Michigan. The figures for each college are given so as to show the successes and failures of its graduates at the examinations. Of the 255 candidates examined, twenty-four, or 9.3 per cent, failed.

Table 1.—*Foreign Physicians Examined*

Year	Canada			Other Foreign Grads.			Totals		
	Examined	Failed	Per Cent	Examined	Failed	Per Cent	Examined	Failed	Per Cent
1917.....	34	8	23.5	79	37	46.8	113	45	39.8
1918.....	29	10	34.5	45	17	37.8	74	27	36.5
1919.....	71	22	31.0	67	30	44.8	138	52	37.7
1920.....	85	21	24.7	86	33	38.4	171	54	31.6
1921.....	84	20	23.8	178	77	43.2	262	97	33.2
1922.....	73	9	12.3	186	76	40.9	259	85	32.4
1923.....	140	17	12.1	371	165	44.5	511	182	35.6
1924.....	212	14	6.6	591	231	39.1	803	245	30.5
1925.....	319	27	8.5	523	205	39.2	842	232	27.6
1926.....	305	18	5.9	330	134	40.6	635	152	23.9
1927.....	255	24	9.3	281	111	39.6	536	135	25.1
Totals..	1,607	190	11.8	2,737	1,116	40.8	4,344	1,306	30.1

The number of foreign physicians seeking licensure in the United States has steadily increased since the World War, up to 1926, but in 1927 there was a decrease from 330 to 281, exclusive of those from Canada, as compared with 330 in 1926, 523 in 1925, and 591 in 1924. Of the 281 examined in 1927, 111, or 39.6 per cent, failed. This year, foreign graduates were examined in thirty states, the largest number, 143, being examined in New York, of whom sixty, or 42.0 per cent, failed. From all foreign countries, including Canada, 536 candidates were examined, of whom 401 passed and 135, or 25.1 per cent, failed. As shown in table 1, the number of applicants from foreign countries has rapidly increased since the conclusion of the World War until during the last two years.

Caution in Forming Conclusions

In making comparisons on the basis of these statistics, the reader must keep in mind the number of graduates examined, the number of states in which a school's graduates were examined, and the character of the board making the examination and the methods employed. Most of the boards refuse to examine graduates of inferior medical colleges, while a few still admit not only graduates of low-grade medical colleges but also osteopaths to the physicians' and surgeons' examination. Some boards in their examinations mark more severely than others, and some include practical laboratory and clinical tests. In forming conclusions based on these statistics, it is particularly important to note for each college the states in which its graduates are not admitted to examinations, as set forth in table C. Few state boards now admit graduates of low-grade medical schools to their examinations.

Undergraduates and Osteopaths Examined as Physicians During 1927

For the last ten years, the few undergraduates examined have been accidental or are exceptional instances. In 1927, fifteen undergraduates were examined, of whom nine were licensed. Four undergraduates each were licensed in Colorado and West Virginia, and one in Mississippi. Four failed in Colorado. In 1906, by contrast, there were 703 undergraduates examined, of whom 342 were licensed. The door is now carefully guarded, therefore, against the licensing of those whose medical training is known to be incomplete. Four boards, however, registered as physicians and surgeons, by examination or reciprocity, 130 graduates of osteopathic colleges, which, if measured by the same standards as medical schools, could be graded only low in class C, as the teachers, with an occasional exception, have not had a training in medicine or in differential diagnosis, and therefore are not qualified to instruct others in the essentials of the healing art.

The total numbers of undergraduates and graduates of non-descript colleges licensed during the last ten years, from 1918 to 1927, inclusive, are shown in table 2. The largest number examined in any state was 432 in California, followed by 343 in Massachusetts, 204 in Colorado, 35 in Connecticut and 31 in Texas. Of these five states the highest failure percentage was in Massachusetts with 50.7, followed by Colorado with 38.2, California with 31.9, and Texas with 25.8. The average failure percentage in all states for this type of candidate was 38.2. Altogether 1,122 were examined, of whom 693 were licensed and 429 rejected. In brief, every candidate of this type has nearly three chances out of five of securing a license in this country.

In California, prior to 1923, osteopaths in considerable numbers were licensed by the medical board. Since November, 1922, a board of osteopathic examiners, under the medical practice act, has been licensing graduates of osteopathic schools as physicians and surgeons, thereby adding California to the states having multiple boards responsible for the licensing of physicians and surgeons.

Recent Graduates Examined During 1927

Table B gives the total results not only for the graduates for all years but also (second column) the graduates of 1923 to 1927, inclusive, who were examined during 1927. This column refers to recent graduates and is the fairest basis for comparison between colleges. Of all candidates examined in

(CONTINUED ON PAGE 1202)

Marginal Number	NAME OF COLLEGE	1 Alabama P	1 Alabama F	2 Arizona P	2 Arizona F	3 Arkansas P	3 Arkansas F	4 California P	4 California F	5 Colorado P	5 Colorado F	6 Connecticut P	6 Connecticut F	7 Delaware P	7 Delaware F	8 Dist. Columbia P	8 Dist. Columbia F	9 Florida P	9 Florida F	10 Georgia P	10 Georgia F	11 Idaho P	11 Idaho F	12 Illinois P	12 Illinois F	13 Indiana P	13 Indiana F	14 Iowa P	14 Iowa F	15 Kansas P	15 Kansas F	16 Kentucky P	16 Kentucky F	17 Louisiana P	17 Louisiana F	18 Maine P	18 Maine F	19 Maryland P	19 Maryland F	20 Massachusetts P	20 Massachusetts F	21 Michigan P	21 Michigan F	22 Minnesota P	22 Minnesota F	Marginal Number
	ARKANSAS																																													
1	University of Arkansas School of Medicine					40	0											1	0															3	0											1
	CALIFORNIA																																													
2	College of Medical Evangelists							32	0							1	0	1	0			1	0													1	0									2
3	Stanford University School of Medicine							26	0	1	0																																	1	0	3
4	University of California Medical School			1	0			53	0																																					4
	COLORADO																																													
5	University of Colorado School of Medicine							1	0	24	0											2	0																							5
	CONNECTICUT																																												
6	Yale University School of Medicine							2	0			16	1							1	0															2	0	1	0							6
	DISTRICT OF COLUMBIA																																												
7	Georgetown University School of Medicine											4	0			12	0																			1	0	2	0	0	1					7
8	George Washington University Medical School											1	0			31	0					1	0	1	0											2	0					2	0			8
9	Howard University School of Medicine	2	0					0	1							26	0	1	0	1	0			1	0					1	0			1	0			1	2			1	0			9
	GEORGIA																																												
10	Emory University School of Medicine	7	0															13	0	32	0			1	0																					10
11	University of Georgia Medical Department																	5	1	27	0																									11
	ILLINOIS																																												
12	Chicago Medical School			1	0			0	1											1	0			40	14															0	1					12
13	Loyola University School of Medicine			1	0			3	1															49	2			2	0													2	0			13
14	Northwestern University Medical School							10	1	5	0											1	1	59	3	4	0			2	0									1	0	3	0	5	0	14
15	Rush Medical College (University of Chicago)	3	0					16	0	3	0							4	6			2	0	77	1			1	0	1	0											2	0	2	0	15
16	University of Illinois College of Medicine	3	0	1	0			8	0									1	0					104	2	2	0	1	0																	16
	INDIANA																																												
17	Indiana University School of Medicine	1	0					2	0							1	0							2	0	86	0							1	0									17
	IOWA																																												
18	State University of Iowa College of Medicine							7	0															1	0			78	0											1	0			2	0	18
	KANSAS																																												
19	University of Kansas School of Medicine							3	0																					31	0													19
	KENTUCKY																																												
20	University of Louisville School of Medicine			1	0													1	0					1	0	3	0					61	1							1	0			20
	LOUISIANA																																												
21	Tulane University of Louisiana School of Medicine	8	0					2	0							1	0	3	0	1	0													72	0									21
	MARYLAND																																												
22	Johns Hopkins University School of Medicine							2	0	1	0	2	0			5	0	3	0					1	0	1	0					1	0					28	0	1	0	1	0			22
23	Univ. of Md. School of Med. and Coll. of P. & S.							0	1			1	0			3	0																					48	0	1	0					23
	MASSACHUSETTS																																												
24	Boston University School of Medicine											7	0																							4	0			19	1					24
25	College of Physicians and Surgeons, Boston									1	0																													6	5					25
26	Harvard University Medical School							8	0							2	0					1	0			1	0			1	0			2	0	2	0	2	0	29	0	2	0	2	0	26
27	Tufts College Medical School							1	0			7	1			1	0									1	0									6	0			64	1					27
28	Middlesex College of Medicine and Surgery																	1	0																					7	11					28
	MICHIGAN																																												
29	University of Michigan Medical School							2	0							3	0									1	0													1	0	114	0			29
30	Detroit College of Medicine and Surgery																	0	1																						35	0					30
	MINNESOTA																																												
31	University of Minnesota Medical School							3	0									2	0									1	0											1	0			95	0	31
	MISSOURI																																												
32	Kansas City College of Medicine and Surgery					1	0			2	5																																	32
33	Kansas City University of Physicians and Surgeons									6	6																													0	4					33
34	St. Louis College of Physicians and Surgeons			0	1					12	12																							0	1									34
35	St. Louis University School of Medicine			1	0			4	0									2	0					9	0	1	0	2	0	7	0			1	0					2	0	3	0	35
36	Washington University School of Medicine	1	0					4	0															4	1			1	0	6	0									1	0	1	0	2	0	36
	NEBRASKA																																												
37	Creighton University College of Medicine			1	0			4	0													1	0					1	0	3	0									2	0			1	0	37
38	University of Nebraska College of Medicine							5	0									4	0									2	0					2	0					1	0	1	0			38
	NEW YORK																																												
39	Albany Medical College																																												39
40	University of Buffalo School of Medicine							0	1									0	1																					1	1	1	0	1	0	40
41	Columbia University College of Phys. and Surgs.	1	0					1	1									2	0																					3	0	1	0	1	0	41
42	Cornell University Medical College							2	0			1	0																											1	0			2	0	42
43	Long Island College Hospital																	1	0																					1	0					43
44	New York Homeo. Med. Coll. and Flower Hosp.																																												44
45	University and Bellevue Hospital Medical College											1	0																											1	0	1	0			45
46	Syracuse University College of Medicine																																							1	0	1	0	1	0	46
	OHIO																																												
47	Eclectic Medical College																			1	0					2	0					5	0													47
48	University of Cincinnati College of Medicine							1	0									2	0													2	0													48
49	Western Reserve University School of Medicine			1	0											1	0	2	0																											49
50	Ohio State University College of Medicine																	1	0																							1	0			50
	OKLAHOMA																																												
51	University of Oklahoma School of Medicine													1	0									1	0					1	0															51
	OREGON																																												
52	University of Oregon Medical School							3	0																																	1	0	1	0	52
	PENNSYLVANIA																																												
53	Hahnemann Medical College and Hosp. of Phila.							1	0																													1	0	1	0					53
54	Jefferson Medical College of Philadelphia	1	0					1	0			5	0	1	0	1	0	3	0			1	0													1	0	1	0	2	0			1	0	54
55	Temple University School of Medicine											1	0					1	0																			1	0	1	1					55
56	University of Pennsylvania School of Medicine	1	0					1	0									3	0	1	0									1	0			4	0			2	0	2	0			5	0	56
57	Woman's Medical College of Pennsylvania																																							4	0					57
58	University of Pittsburgh School of Medicine																																	1	0											58
	SOUTH CAROLINA																																												
59	Medical College of the State of South Carolina															2	0																											2	0	59
	TENNESSEE																																												
60	University of Tennessee College of Medicine	1	0			3	0											2	0															1	0											60
61	Meharry Medical College	1	0													1	0	4	0	2	0			3	3									2	0			1	1	1	0	3	1			61
62	Vanderbilt University School of Medicine			1	0	1	0											5	0																											62
		1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16		17		18		19		20		21		22		

P = Passed; F = Failed.

| Marginal Number | 23 Mississippi | | 24 Missouri | | 25 Montana | | 26 Nebraska | | 27 Nevada | | 28 New Hampshire | | 29 New Jersey | | 30 New Mexico | | 31 New York | | 32 North Carolina | | 33 North Dakota | | 34 Ohio | | 35 Oklahoma | | 36 Oregon | | 37 Pennsylvania | | 38 Rhode Island | | 39 South Carolina | | 40 South Dakota | | 41 Tennessee | | 42 Texas | | 43 Utah | | 44 Vermont | | 45 Virginia | | 46 Washington | | 47 West Virginia | | 48 Wisconsin | | 49 Wyoming | | 50 U. S. Territories and Possessions | | Totals | Examined—Passed | Examined—Failed | Percentage of Failures | No. States Exam. in | Marginal Number |
|---|---|---

Marginal Number	NAME OF COLLEGE	1 Alabama P	1 Alabama F	2 Arizona P	2 Arizona F	3 Arkansas P	3 Arkansas F	4 California P	4 California F	5 Colorado P	5 Colorado F	6 Connecticut P	6 Connecticut F	7 Delaware P	7 Delaware F	8 Dist. Columbia P	8 Dist. Columbia F	9 Florida P	9 Florida F	10 Georgia P	10 Georgia F	11 Idaho P	11 Idaho F	12 Illinois P	12 Illinois F	13 Indiana P	13 Indiana F	14 Iowa P	14 Iowa F	15 Kansas P	15 Kansas F	16 Kentucky P	16 Kentucky F	17 Louisiana P	17 Louisiana F	18 Maine P	18 Maine F	19 Maryland P	19 Maryland F	20 Massachusetts P	20 Massachusetts F	21 Michigan P	21 Michigan F	22 Minnesota P	22 Minnesota F	Marginal Number
	TEXAS																																													
63	Baylor University College of Medicine																																	1	0											63
64	University of Texas School of Medicine															1	0																	1	0											64
	VERMONT																																													
65	University of Vermont College of Medicine											1	0																											2	0					65
	VIRGINIA																																												
66	Medical College of Virginia							2	0							2	0	2	0																			3	0					66
67	University of Virginia Department of Medicine															1	0	1	0					1	0									1	0									67
	WISCONSIN																																												
68	Marquette University School of Medicine							1	0	1	0																																	68
69	University of Wisconsin Medical School																																												69
	PHILIPPINE ISLANDS																																												
70	Univ. of the Philippines Coll. of Med. and Surg																																												70
71	University of St. Thomas Coll. of Med. and Surg																																												71
	CANADA																																												
72	University of Alberta Faculty of Medicine																							2	0	1	0															1	0			72
73	Dalhousie University Faculty of Medicine	4	0					1	0			1	0											2	0																	2	0			73
74	Queen's University Faculty of Medicine											3	0											1	0															1	0	2	0	1	0			74
75	University of Toronto Faculty of Medicine							3	1			2	0			1	0							4	0			1	0											2	0	29	0	3	0	75
76	University of Western Ontario Medical School															1	0							1	0																	5	0			76
77	McGill University Faculty of Medicine							2	0			4	0											1	0													3	0			4	0	1	0	77
78	University of Montreal Faculty of Medicine																	0	1																					3	8					78
79	Laval University Faculty of Medicine																	1	0																	2	4			0	1					79
80	University of Manitoba Faculty of Medicine							2	0																									1	0	1	0	1	0					1	0	80
81	Foreign Colleges			1	1			12	11	2	2							4	0			1	0	11	7	0	2	1	0			1	0	1	0	0	1	1	1	1	4	2	0	2	0	81
82	Miscellaneous Medical Colleges	1	0	0	1	3	1	1	2	2	0					2	0	14	6			6	1	2	5					2	0	1	0	4	1	1	0	0	1							82
83	Undergraduates and Osteopaths							88	0	15	9																													25	33					83
84	Totals by States	35		13		49		341		109		59		2		99		100		67		19		415		105		91		56		73		101		30		101		270		218		137		84
85	Totals—Examined—Passed	35		10		48		320		75		57		2		99		90		67		17		377		103		91		56		72		99		25		96		195		217		137		85
86	Totals—Examined—Failed	0		3		1		21		34		2		0		0		10		0		2		38		2		0		0		1		2		5		5		75		1		0		86
87	Percentage of Failures	0.0		23.1		2.0		6.1		31.2		3.4		0.0		0.0		10.0		0.0		10.6		9.2		1.9		0.0		0.0		1.4		1.9		16.7		4.9		27.7		0.4		0.0		87
		1		2		3		4		5		6		7		8		9		10		11		12		13		14		15		16		17		18		19		20		21		22		

P = Passed; F = Failed

(CONTINUED FROM PAGE 1199)

1927, 4,759, or 87.2 per cent, were recent graduates, and of this number 4.2 failed, as compared with 7.1 per cent of all candidates.

Old Practitioners Examined During 1927

Table B shows also (column three) for comparison the results for graduates of 1922 and previous years and for graduates of 1927 (fourth column). Of the graduates of 1922 and previous years—"old practitioners"—514 were examined, and of this number 142, or 27.6 per cent, failed. The numbers of these candidates are gradually being diminished (table 3) as state licensing boards extend their provisions for reciprocity, or more generally endorse, without further examination, licenses granted by other states. As a rule, states that have limited or no reciprocal relations with other states

TABLE 2.—*Graduates of Nondescript Colleges and Undergraduates Licensed in Ten Years*

	1918 Examined	1918 Registered	1919 Examined	1919 Registered	1920 Examined	1920 Registered	1921 Examined	1921 Registered	1922 Examined	1922 Registered	1923 Examined	1923 Registered	1924 Examined	1924 Registered	1925 Examined	1925 Registered	1926 Examined	1926 Registered	1927 Examined	1927 Registered	Total Examined	Total Registered	Total Failed	Percentage Failed
Alabama	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	1	1	0	0.0
Arizona	...	...	1	1	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...	...	2	2	0	0.0
Arkansas	...	...	...	...	...	...	...	...	...	...	...	...	1	1	1	1	4	4	...	...	6	6	0	0.0
California	133	77	28	13	27	12	32	25	66	32	...	...	1	0	...	...	57	47	88	88	432	294	138	31.9
Colorado	26	21	27	16	34	17	17	13	15	8	18	10	8	8	11	4	24	14	24	15	204	126	78	38.2
Connecticut	...	...	...	...	...	...	...	...	35	25	...	...	...	...	...	...	...	...	...	...	35	25	10	28.6
District of Columbia	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	1	1	0	0.0
Idaho	2	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	2	0	0.0
Illinois	...	...	...	...	...	...	...	...	...	...	1	0	2	0	1	0	...	...	...	...	4	0	4	100.0
Kentucky	...	...	...	...	...	...	...	...	...	...	1	1	...	...	1	1	1	0	...	...	3	2	1	33.3
Massachusetts	51	32	19	4	23	7	24	8	19	13	36	26	17	15	35	13	61	26	58	25	343	169	174	50.7
Michigan	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1	...	...	1	1	0	0.0
Minnesota	3	3	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	3	0	0.0
Mississippi	...	...	...	...	...	...	...	...	1	1	...	...	...	...	2	2	3	1	1	1	6	4	2	33.3
Missouri	...	...	...	...	...	...	...	...	4	1	...	...	...	...	...	...	...	...	...	...	4	1	3	75.0
New Hampshire	2	1	1	1	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	3	2	1	33.3
North Carolina	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	1	1	0	0.0
Oklahoma	...	...	...	...	2	2	...	...	...	...	...	...	...	...	...	...	...	...	...	...	2	2	0	0.0
Oregon	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	1	1	0	0.0
Tennessee	...	...	1	1	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	2	2	0	0.0
Texas	...	...	1	1	...	...	3	3	2	2	1	1	3	2	8	5	6	3	7	6	31	23	8	25.8
Utah	...	...	...	...	2	2	1	1	...	...	...	...	...	...	...	...	...	...	...	...	3	3	0	0.0
Washington	7	6	2	2	...	...	...	...	...	...	...	...	1	1	...	...	...	...	...	...	10	9	1	10.0
West Virginia	...	...	5	0	...	...	1	0	1	0	1	0	...	...	...	...	...	...	4	4	12	4	8	66.7
Wisconsin	...	...	...	...	...	...	6	5	1	1	...	...	...	...	2	2	...	...	...	...	9	8	1	11.1
Wyoming	...	...	...	...	...	...	1	1	...	...	...	...	...	...	...	...	...	...	...	...	1	1	0	0.0
Totals	224	142	85	39	88	40	88	59	144	83	58	38	34	28	62	29	158	97	182	139	1122	693		
Rejected	84		46		48		29		61		20		6		33		61		43		....	...	429	38.2

Marginal Number	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50						
	Mississippi	Missouri	Montana	Nebraska	Nevada	New Hampshire	New Jersey	New Mexico	New York	North Carolina	North Dakota	Ohio	Oklahoma	Oregon	Pennsylvania	Rhode Island	South Carolina	South Dakota	Tennessee	Texas	Utah	Vermont	Virginia	Washington	West Virginia	Wisconsin	Wyoming	U. S. Territories and Possessions	Totals	Examined—Passed	Examined—Failed	Percentage of Failures	No. States Exam. in	Marginal Number
	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F	P F						
63							1 0		5 0			1 0 0 1								45 0									54	53	1	1.9	6	63
64									5 0						1 0 1 0 1 0					46 0								1 0	57	57	0	0.0	8	64
65									7 2							1 0						17 0							30	28	2	6.7	5	65
66									8 2	16 0					3 0								61 0		15 0			2 0	116	114	2	1.7	19	66
67	3 0								7 0	3 0							1 0						28 0	3 0					49	49	0	0.0	10	67
68		1 0	1 0						1 0															1 0		4 0			10	10	0	0.0	7	68
69																							1 0						1	1	0	0.0	1	69
70																												27 0	27	27	0	0.0	1	70
71																												84 19	103	84	19	18.4	1	71
72									1 0																				2	2	0	0.0	2	72
73									6 2			1 0											1 0		1 0			1 0	23	21	2	8.7	11	73
74							1 0		17 0			2 0			1 1								1 0		1 0				32	31	1	3.1	11	74
75							2 0		14 1		2 0	10 0			11 0								3 0	1 0	2 0	1 0			93	91	2	2.1	17	75
76									1 0			2 0																	10	10	0	0.0	5	76
77					1 0	1 0	3 0		18 4			2 0		1 0	4 0							1 0			1 0	1 0		1 0	56	52	4	7.1	18	77
78						1 0										1 0													14	5	9	64.3	9	78
79						1 0										1 0													10	5	5	50.0	5	79
80											5 0	1 0												2 1					15	14	1	6.9	9	80
81	1 1				1 1		3 5		83 60			3 2		1 0	3 1	0 3			1 0	18 1			2 0	1 0	1 0	2 1		10 7	281	170	111	39.6	30	81
82		0 1	2 0	2 0		1 0			2 1	1 0	0 1	2 1			7 3	1 0		1 0		1 0			0 1					1 2	87	59	28	32.3	26	82
83	1 0																			6 1					4 0				182	139	43	23.6	6	83
84	21	125	10	101	8	5	63	0	1007	21	18	246	50	45	373	27	38	9	133	135	6	22	104	29	61	39	2	197	5455	....	....	....	....	84
85	21	124	9	96	7	5	57	0	896	91	16	243	50	41	363	24	37	9	133	133	5	22	103	27	59	38	2	169	....	5068	....	....	....	85
86	0	1	1	5	1	0	6	0	111	0	2	3	0	4	10	3	1	0	0	2	1	0	1	2	2	1	0	28	....	....	387	....	....	86
87	0.0	0.8	10.0	4.9	12.5	0.0	9.5	0.0	11.0	0.0	11.1	1.2	0.0	8.9	2.7	17.1	2.7	0.0	0.0	1.5	16.6	0.0	0.9	6.9	3.2	2.6	0.0	14.2	....	....	....	7.1	....	87
	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50						

examine larger numbers of old practitioners. For example, New York, which has limited reciprocal relations, licensed by examination seventy-six of these older practitioners.

GRADUATES OF 1927 EXAMINED DURING 1927

Of the graduates of 1927 who were examined during the year by the state boards, table B shows that 3,190, or 58.5 per cent, of all candidates examined during the year graduated in 1927, including twenty-three who graduated from Canadian medical colleges. Educational statistics show that the medical colleges of the United States graduated 4,035 students last year, and 3,167, or 78 per cent, of all graduates of 1927 took examinations for license during that year. Thirteen states require that graduates in medicine shall have served as hospital interns before they are eligible for licenses, and in most states graduates are allowed to serve as interns in hospitals without first securing licenses, which accounts for some of the remaining 22 per cent. Of the 3,190 graduates of 1927 who were examined, eighty-two, or 2.6 per cent, failed.

NONRECOGNITION OF MEDICAL COLLEGES

Table C shows for each college, from official reports, the states in which its diplomas are not given full recognition, and therefore their graduates are not eligible to take examinations for licenses to practice medicine. This table shows also the rating of each college by the Council on Medical Education and Hospitals. For the student who is selecting a medical college, the facts in this table are of extreme importance. There are seventy, or 87.5 per cent, of all medical colleges which have complete recognition in all states. If the student gets his medical training in one of the remaining ten colleges, however, he will find on graduation that he cannot secure a license to practice in from two to forty-nine states (counting in Alaska and the District of Columbia).

During the fifteen years that the information in table C has been published, the proportion of fully recognized colleges has increased from 29 per cent in 1913 to 87.5 per cent in 1927. (See table 6.)

Of the fifty states—counting in Alaska and the District of Columbia—all the licensing boards, to some extent at least, are now utilizing their authority to refuse recognition to medical colleges that do not meet their legal and educational requirements. In two states, Arkansas (because of the Eclectic Board), Massachusetts and the District of Columbia the boards have only limited authority in the enforcement of reasonable standards. But of the three states with wide open doors for graduates of low grade medical colleges which formerly existed, those of Connecticut and Florida have been closed, leaving only Arkansas which still holds out a welcome to such graduates.

TABLE 3.—*Results for This and Previous Years*

Year	All Candidates Examined				Recent Graduates		Older Graduates		Nondescript		Registered without Written Examination	Total Registered
	Examined	Passed	Failed	Percentage Failed	Examined	Percentage Failed	Examined	Percentage Failed	Examined	Percentage Failed		
1904	7035	5672	1363	19.3	4773	14.1	579	29.7	515	52.6	999	6971
1905	7170	5680	1490	20.8	6054	16.2	690	37.7	472	61.9	394	6074
1906	8035	6368	1667	20.7	6250	16.4	793	27.1	703	51.3	1497	7805
1907	7271	5723	1548	21.3	5922	15.1	675	27.7	674	69.6	1426	7149
1908	7770	6084	1686	21.7	6477	17.8	796	31.5	494	56.8	1276	7360
1909	7287	5857	1430	19.6	5891	15.4	958	30.0	438	54.1	1373	7230
1910	7004	5712	1292	18.4	5678	14.9	973	29.1	353	45.6	1640	7352
1911	6960	5578	1382	19.9	5685	17.2	945	29.4	330	38.5	1246	6824
1912	6879	5466	1413	20.5	5770	18.6	856	29.2	253	34.8	1257	6723
1913	6435	5236	1199	18.6	5390	16.5	225	32.1	251	37.8	1265	6501
1914	5570	4370	1200	21.6	4549	17.6	728	30.0	293	61.4	1427	5797
1915	5313	4486	827	15.6	4627	13.2	621	29.3	65	49.2	1386	5872
1916	4850	4123	727	15.0	4283	12.7	567	32.1	...	....	1338	5461
1917	4730	4061	669	14.1	4015	10.1	564	32.6	...	....	1362	5423
1918	3637	3154	483	13.3	2984	9.3	479	30.5	...	....	1031	4185
1919	4736	4060	676	14.3	3904	10.5	766	30.8	66	47.0	2521	6584
1920	4787	4053	734	15.3	3984	11.5	738	33.2	65	50.8	2504	6557
1921	4807	4211	596	12.4	4046	7.8	673	37.3	88	33.0	2137	6348
1922	3993	3501	492	12.3	3285	7.4	563	33.3	83	49.7	1996	5497
1923	4698	3998	700	14.9	3985	10.8	655	38.0	58	34.5	2323	6321
1924	5350	4713	637	11.9	4490	7.3	826	36.5	34	17.6	1840	6553
1925	5956	5404	552	9.3	4958	5.0	936	29.2	62	53.2	1790	7194
1926	5809	5342	467	8.0	4992	4.7	659	25.5	158	50.5	1881	7223
1927	5455	5068	387	7.1	4759	4.2	514	27.6	182	23.6	2139	7594

Marginal Number	NAME OF COLLEGE	Graduates of All Years					Graduates of 1923–1927					Graduates of 1922 and Previous					Graduates of 1927					Marginal Number
		Number Examined	Number Passed	Number Failed	Per Cent Failed	Number of States	Number Examined	Number Passed	Number Failed	Per Cent Failed	Number of States	Number Examined	Number Passed	Number Failed	Per Cent Failed	Number of States	Number Examined	Number Passed	Number Failed	Per Cent Failed	Number of States	
	ARKANSAS																					
1	University of Arkansas School of Medicine	60	58	2	3.3	8	58	56	2	3.4	7	2	2	0	0.0	2	45	44	1	2.2	4	1
	CALIFORNIA																					
2	College of Medical Evangelists	41	40	1	2.4	9	40	39	1	2.5	9	1	1	0	0.0	1	36	36	0	0.0	7	2
3	Stanford University School of Medicine	28	28	0	0.0	3	28	28	0	0.0	3	0	0	0	0.0	0	26	26	0	0.0	2	3
4	University of California Medical School	54	54	0	0.0	2	54	54	0	0.0	2	0	0	0	0.0	0	52	52	0	0.0	1	4
	COLORADO																					
5	University of Colorado School of Medicine	29	29	0	0.0	5	26	26	0	0.0	3	3	3	0	0.0	2	24	24	0	0.0	1	5
	CONNECTICUT																					
6	Yale University School of Medicine	42	41	1	2.4	8	42	41	1	2.4	8	0	0	0	0.0	0	14	13	1	7.2	2	6
	DISTRICT OF COLUMBIA																					
7	Georgetown University School of Medicine	38	37	1	2.6	10	38	37	1	2.6	10	0	0	0	0.0	0	18	17	1	5.6	7	7
8	George Washington University Medical School	76	76	0	0.0	14	75	75	0	0.0	13	1	1	0	0.0	1	49	49	0	0.0	6	8
9	Howard University School of Medicine	71	62	9	12.7	17	66	60	6	9.1	16	5	2	3	60.0	4	31	28	3	9.7	9	9
	GEORGIA																					
10	Emory University School of Medicine	67	66	1	15.0	8	65	64	1	1.5	8	2	2	0	0.0	2	44	44	0	0.0	4	10
11	University of Georgia Medical Department	35	34	1	2.9	4	33	33	0	0.0	4	2	1	1	50.0	1	27	27	0	0.0	1	11
	ILLINOIS																					
12	Chicago Medical School	60	43	17	28.3	7	57	42	15	26.3	5	3	1	2	66.7	3	49	37	12	24.5	3	12
13	Loyola University School of Medicine	70	65	5	7.1	11	67	64	3	4.5	11	3	1	2	66.7	2	53	52	1	1.9	8	13
14	Northwestern University Medical School	119	113	6	5.0	19	117	112	5	4.3	19	2	1	1	50.0	2	88	83	5	5.7	15	14
15	Rush Medical College (University of Chicago)	137	136	1	0.7	21	128	127	1	0.8	19	9	9	0	0.0	6	86	85	1	1.2	13	15
16	University of Illinois College of Medicine	142	140	2	1.4	18	137	136	1	0.7	17	5	4	1	20.0	5	120	119	1	0.8	11	16
	INDIANA																					
17	Indiana University School of Medicine	101	100	1	1.0	11	101	100	1	1.0	11	0	0	0	0.0	0	84	84	0	0.0	4	17
	IOWA																					
18	State University of Iowa College of Medicine	103	103	0	0.0	13	100	100	0	0.0	11	3	3	0	0.0	3	83	83	0	0.0	2	18
	KANSAS																					
19	University of Kansas School of Medicine	38	38	0	0.0	5	38	38	0	0.0	5	0	0	0	0.0	0	32	32	0	0.0	3	19
	KENTUCKY																					
20	University of Louisville School of Medicine	88	86	2	2.3	13	83	81	2	2.4	10	5	5	0	0.0	4	67	65	2	3.0	4	20
	LOUISIANA																					
21	Tulane University of Louisiana School of Medicine	119	119	0	0.0	13	115	115	0	0.0	12	4	4	0	0.0	3	97	97	0	0.0	6	21
	MARYLAND																					
22	Johns Hopkins University School of Medicine	61	61	0	0.0	19	56	56	0	0.0	19	5	5	0	0.0	4	21	21	0	0.0	4	22
23	Univ. of Md. School of Med. and Coll. of P. & S.	98	96	2	2.0	14	88	87	1	1.1	10	10	9	1	10.0	6	71	71	0	0.0	6	23
	MASSACHUSETTS																					
24	Boston University School of Medicine	60	59	1	1.7	8	58	57	1	1.7	6	2	2	0	0.0	1	33	33	0	0.0	6	24
25	College of Physicians and Surgeons, Boston	13	8	5	41.7	3	12	7	5	41.7	2	1	1	0	0.0	1	8	4	4	50.0	1	25
26	Harvard University Medical School	82	82	0	0.0	21	76	76	0	0.0	21	6	6	0	0.0	4	25	25	0	0.0	8	26
27	Tufts College Medical School	139	131	8	5.8	14	133	127	6	4.5	13	6	4	2	33.3	4	85	80	5	5.9	6	27
28	Middlesex College of Medicine and Surgery	19	8	11	57.9	2	16	7	9	56.2	1	3	1	2	66.7	2	1	0	1	100.0	1	28
	MICHIGAN																					
29	University of Michigan Medical School	148	145	3	2.1	12	142	140	2	1.4	11	6	5	1	16.7	5	113	113	0	0.0	4	29
30	Detroit College of Medicine and Surgery	36	35	1	2.8	2	35	35	0	0.0	1	1	0	1	100.0	1	35	35	0	0.0	1	30
	MINNESOTA																					
31	University of Minnesota Medical School	107	107	0	0.0	10	104	104	0	0.0	9	3	3	0	0.0	3	63	63	0	0.0	4	31
	MISSOURI																					
32	Kansas City College of Medicine and Surgery	8	3	5	62.5	1	6	3	3	50.0	2	2	0	2	100.0	1	4	1	3	75.0	1	32
33	Kansas City University of Physicians and Surgeons	17	7	10	58.8	3	16	7	9	56.2	3	1	0	1	100.0	1	11	4	7	63.6	2	33
34	St. Louis College of Physicians and Surgeons	30	15	15	50.0	6	23	13	10	43.5	2	7	2	5	71.4	6	10	7	3	30.0	1	34
35	St. Louis University School of Medicine	132	128	4	3.0	16	130	126	4	3.1	16	2	2	0	0.0	2	99	95	4	4.0	12	35
36	Washington University School of Medicine	77	76	1	7.8	24	74	74	0	0.0	23	3	2	1	33.3	2	34	34	0	0.0	7	36
	NEBRASKA																					
37	Creighton University College of Medicine	62	60	2	3.2	14	60	58	2	3.3	14	2	2	0	0.0	2	47	45	2	4.3	7	37
38	University of Nebraska College of Medicine	77	75	2	2.6	12	77	75	2	2.6	12	0	0	0	0.0	0	54	52	2	3.8	5	38
	NEW YORK																					
39	Albany Medical College	19	19	0	0.0	2	17	17	0	0.0	1	2	2	0	0.0	1	17	17	0	0.0	1	39
40	University of Buffalo School of Medicine	73	68	5	6.8	7	68	65	3	4.3	6	5	3	2	40.0	3	61	60	1	1.6	1	40
41	Columbia University College of Phys. and Surgs.	79	76	3	3.8	10	75	72	3	4.2	8	4	4	0	0.0	2	55	53	2	3.7	2	41
42	Cornell University Medical College	57	57	0	0.0	11	54	54	0	0.0	10	3	3	0	0.0	2	42	42	0	0.0	4	42
43	Long Island College Hospital	74	73	1	1.4	4	72	71	1	1.4	2	2	2	0	0.0	2	69	68	1	1.4	1	43
44	New York Homeo. Med. Coll. and Flower Hosp.	35	35	0	0.0	3	31	21	0	0.0	1	4	4	0	0.0	3	31	31	0	0.0	1	44
45	University and Bellevue Hospital Medical College	103	101	2	1.9	5	101	99	2	2.0	3	2	2	0	0.0	2	98	97	1	1.0	3	45
46	Syracuse University College of Medicine	46	44	2	4.3	7	44	42	2	4.5	5	2	2	0	0.0	2	39	37	2	5.1	1	46
	OHIO																					
47	Eclectic Medical College	41	38	3	7.3	6	41	38	3	7.3	6	0	0	0	0.0	0	38	35	3	7.9	5	47
48	University of Cincinnati College of Medicine	66	66	0	0.0	9	66	66	0	0.0	9	0	0	0	0.0	0	63	63	0	0.0	8	48
49	Western Reserve University School of Medicine	43	43	0	0.0	6	41	41	0	0.0	5	2	2	0	0.0	2	37	37	0	0.0	1	49
50	Ohio State University College of Medicine	62	62	0	0.0	4	62	62	0	0.0	4	0	0	0	0.0	0	59	59	0	0.0	1	50
	OKLAHOMA																					
51	University of Oklahoma School of Medicine	49	48	1	2.0	8	49	48	1	2.0	8	0	0	0	0.0	0	44	44	0	0.0	3	51
	OREGON																					
52	University of Oregon Medical School	53	50	3	5.7	7	52	49	3	5.8	6	1	1	0	0.0	1	30	28	2	6.7	2	52
	PENNSYLVANIA																					
53	Hahnemann Medical College and Hosp. of Phila.	42	42	0	0.0	8	41	41	0	0.0	8	1	1	0	0.0	1	6	6	0	0.0	1	53
54	Jefferson Medical College of Philadelphia	146	145	1	0.7	24	137	136	1	0.7	19	9	9	0	0.0	8	32	32	0	0.0	12	54
55	Temple University School of Medicine	62	61	1	1.6	6	60	59	1	1.7	5	2	2	0	0.0	2	2	2	0	0.0	2	55
56	University of Pennsylvania School of Medicine	134	134	0	0.0	22	127	127	0	0.0	22	7	7	0	0.0	5	25	25	0	0.0	10	56
57	University of Pittsburgh School of Medicine	34	33	1	2.9	6	33	32	1	3.0	6	1	1	0	0.0	1	0	0	0	0.0	0	57
58	Woman's Medical College of Pennsylvania	48	47	1	2.1	7	48	47	1	2.1	7	0	0	0	0.0	0	3	3	0	0.0	3	58
	SOUTH CAROLINA																					
59	Medical College of the State of South Carolina	42	42	0	0.0	7	39	39	0	0.0	6	3	3	0	0.0	3	32	32	0	0.0	2	59
	TENNESSEE																					
60	University of Tennessee College of Medicine	62	62	0	0.0	10	61	61	0	0.0	9	1	1	0	0.0	1	55	55	0	0.0	7	60
61	Meharry Medical College	95	83	12	12.6	19	89	80	9	10.1	19	6	3	3	50.0	3	67	65	2	3.1	13	61
62	Vanderbilt University School of Medicine	54	53	1	1.9	7	50	49	1	2.0	6	4	4	0	0.0	3	42	41	1	2.4	4	62
	TEXAS																					
63	Baylor University College of Medicine	54	53	1	1.9	6	52	52	0	0.0	5	2	1	1	50.0	2	50	50	0	0.0	4	63
64	University of Texas School of Medicine	57	57	0	0.0	8	52	52	0	0.0	5	5	5	0	0.0	4	47	47	0	0.0	2	64

Marginal Number	NAME OF COLLEGE	Graduates of All Years: Number Examined	Number Passed	Number Failed	Per Cent Failed	Number of States	Graduates of 1923-1927: Number Examined	Number Passed	Number Failed	Per Cent Failed	Number of States	Graduates of 1922 and Previous: Number Examined	Number Passed	Number Failed	Per Cent Failed	Number of States	Graduates of 1927: Number Examined	Number Passed	Number Failed	Per Cent Failed	Number of States	Marginal Number
	VERMONT																					
65	University of Vermont College of Medicine	30	28	2	6.7	5	29	27	2	6.9	5	1	1	0	0.0	1	18	18	0	0.0	2	65
	VIRGINIA																					
66	Medical College of Virginia	116	114	2	1.7	10	113	111	2	9.7	11	3	3	0	0.0	2	97	97	0	0.0	7	66
67	University of Virginia Department of Medicine	49	49	0	0.0	10	46	46	0	0.0	7	3	3	0	0.0	2	30	30	0	0.0	3	67
	WISCONSIN																					
68	Marquette University School of Medicine	10	10	0	0.0	7	9	9	0	0.0	6	1	1	0	0.0	1	6	6	0	0.0	6	68
69	University of Wisconsin Medical School	1	1	0	0.0	1	1	1	0	0.0	1	0	0	0	0.0	0	1	1	0	0.0	1	69
	PHILIPPINE ISLANDS																					
70	Univ. of the Philippines Coll. of Med. and Surg.	27	27	0	0.0	1	27	27	0	0.0	1	0	0	0	0.0	0	26	26	0	0.0	1	70
71	University of St. Thomas Coll. of Med. and Surg.	103	84	19	18.4	1	99	83	16	16.2	1	4	1	3	75.0	1	83	76	7	8.4	1	71
	CANADA																					
72	University of Alberta Faculty of Medicine	2	2	0	0.0	2	2	2	0	0.0	2	0	0	0	0.0	0	0	0	0	0.0	0	72
73	Dalhousie University Faculty of Medicine	23	21	2	8.7	11	20	18	2	10.0	9	3	3	0	0.0	3	0	0	0	0.0	0	73
74	Queen's University Faculty of Medicine	32	31	1	3.1	11	24	24	0	0.0	9	8	7	1	12.5	5	5	5	0	0.0	1	74
75	University of Toronto Faculty of Medicine	93	91	2	2.1	17	68	67	1	1.5	17	25	24	1	4.0	10	5	5	0	0.0	2	75
76	University of Western Ontario Medical School	10	10	0	0.0	5	8	8	0	0.0	4	2	2	0	0.0	2	3	3	0	0.0	2	76
77	McGill University Faculty of Medicine	56	52	4	7.1	18	44	41	3	6.8	15	12	11	1	8.3	7	4	4	0	0.0	2	77
78	University of Montreal Faculty of Medicine	14	5	9	64.3	9	12	5	7	58.3	3	2	0	2	100.0	1	4	3	1	25.0	2	78
79	Laval University Faculty of Medicine	10	5	5	50.0	6	8	3	5	62.5	3	2	2	0	0.0	2	0	0	0	0.0	0	79
80	University of Manitoba Faculty of Medicine	15	14	1	6.7	8	11	10	1	9.1	6	4	4	0	0.0	4	2	2	0	0.0	1	80
81	Foreign Colleges	281	170	111	39.6	30	101	65	36	35.6	20	180	105	75	41.4	27	6	6	0	0.0	3	81
82	Miscellaneous Medical Colleges	87	59	28	32.3	25	2	2	0	0.0	2	85	57	28	27.1	25	1	1	0	0.0	1	82
83	Undergraduates and Osteopaths	182	139	43	23.6	6	0	0	0	0.0	0	0	0	0	0.0	0	0	0	0	0.0	0	83
84	Totals by States	5455	....	....	....	..	4760	....	...	....	..	513	...	...	....	..	3174	....	...	....	..	84
85	Totals—Examined—Passed	....	5068	....	....	..	....	4559	...	....	..	...	370	...	....	..	....	3092	...	....	..	85
86	Totals—Examined—Failed	....	....	387	....	..	....	....	201	....	..	...	...	143	....	..	....	....	82	....	..	86
87	Percentage of Failures	....	....	....	7.1	..	....	....	...	4.2	..	...	...	...	27.8	..	....	....	...	2.6	..	87

HOUSECLEANING IN LICENSURE

In Connecticut the licensing of graduates of low grade or nonexisting medical schools was shown by the licensure statistics published in THE JOURNAL, April 28, 1923. In June, 1923, the Commissioner of Health of Connecticut began a housecleaning which resulted in the revocation altogether of 176 licenses on the ground that they were obtained illegally. Most of these have been entirely settled but some are still being contested in the courts.

A new practice law, also, was enacted creating a board governing the healing arts which, it is believed, establishes in Connecticut a permanent safeguard against the licensing of unfit physicians. The effect of this housecleaning is shown by the statistics published this week in the fact that, as shown in table 9, only three graduates of low grade colleges have been licensed in Connecticut in four years, whereas in the last three years at least 167 were so licensed.

TABLE 4.—*Recognition of Medical Colleges (Based on Table C)*

	Number of Colleges					
	1914	1917	1920	1923	1926	1927
Recognized by all state boards	31	55	63	66	70	70
Not recognized in 1 to 9 states	33	17	10	3	1	1
Not recognized in 10 to 32 states	43	20	6	5	3	2
Not recognized in 33 to 37 states	..	6	..	..	..	..
Not recognized in 38 to 44 states	..	..	9	..	..	..
Not recognized in 45 to 49 states	..	..	..	6	6	7
Totals	107	98	88	80	80	80

Florida formerly had three separate boards, which in 1921 were replaced by a single, composite board, but the secretary of the Eclectic Board refused to turn in his records, which gave him the opportunity of continuing to issue licenses which, by being dated in or prior to 1921, had the appearance of legality. This practice resulted, on the conviction of Dr. George A. Munch in March, 1927, of using the mails in the sale of fraudulent diplomas, in his sentence to a fine of $1,000 and to five years in the penitentiary. Although the decision has been reversed by the supreme court, it is hoped, nevertheless, that the door has been permanently closed against "easy" licenses in Florida.

The issuing of licenses by the Arkansas Eclectic Board was supposedly limited to graduates of eclectic medical colleges. Nevertheless, in 1926 a license was issued by this board to a graduate of the St. Louis College of Physicians and Surgeons, a regular medical school and later exposed as engaged in the sale of diplomas.

It is evident that if the graduates of inferior medical colleges are not eligible for license in the majority of states, they will flock to the few that still grant such recognition. The following states, therefore—Arkansas (Eclectic Board), Illinois, Massachusetts and the District of Columbia—will remain the dumping ground for the output of low grade medical colleges until the licensing boards obtain and exercise the needed authority to bar them. Illinois will be the chief recipient of the graduates of the Chicago Medical School, which is still tolerated in that state.

STUDY OF TOTALS AND PERCENTAGES

A study of totals and percentages (table 3), as compared with previous years is of interest. The number, 5,455, examined in 1927, was 354 less than that examined in 1926, but 105 more than in 1924 and 757 more than in 1923. By all methods—examination, reciprocity, under exemption, etc.—7,207 physicians were licensed during 1927, sixteen less than in 1926 and 654 more than in 1924, but 658 less than in 1906, when 7,865 physicians were licensed. The physicians licensed in 1927, however (table 13) include a larger percentage of those having higher educational and professional qualifications. The percentage coming from class A medical schools has increased from 58.7 in 1918 to 84.4 in 1927.

TOTALS EXAMINED IN FIVE YEARS

Table 5 shows the number registered and the number rejected in each state by examination for each of the last five years. A comparison of this table with the statistics in the last educational number of THE JOURNAL (Aug. 20, 1927, p. 607, table 9) shows, as would be expected, that the states having the largest numbers of medical graduates examined the largest numbers of physicians. New York leads, having examined 4,876 candidates in five years, followed by Illinois with 2,097; Pennsylvania, 1,659; California, 1,559, and Massachusetts, 1,454. Altogether, 25,806 physicians were examined by state boards in five years, an average of 5,457 each year, and of these, 4,905, or 90 per cent, were licensed each year.

TOTAL REGISTRATION IN 1927

The tables thus far described have referred only to those registered by examination. Table 6, however, shows the total number who received licenses in each state, including those

TABLE C—RECOGNITION OF MEDICAL COLLEGES

This table, based on official reports, shows in what states diplomas granted by certain medical colleges are not recognized as an acceptable qualification for the license to practice medicine

Colleges marked (x) have been reported as not recognized by the states in two columns of which the letter appears

Marginal Number	COLLEGE	Classification by Council on Medical Education †	1 Alabama	2 Alaska	3 Arizona	4 Arkansas	5 California	6 Colorado	7 Connecticut	8 Delaware	9 District of Columbia	10 Florida	11 Georgia	12 Idaho	13 Illinois	14 Indiana	15 Iowa	16 Kansas	17 Kentucky	18 Louisiana	19 Maine	20 Maryland	21 Massachusetts	22 Michigan	23 Minnesota	24 Mississippi	25 Missouri	26 Montana	27 Nebraska	28 Nevada	29 New Hampshire	30 New Jersey	31 New Mexico	32 New York	33 North Carolina	34 North Dakota	35 Ohio	36 Oklahoma	37 Oregon	38 Pennsylvania	39 Rhode Island	40 South Carolina	41 South Dakota	42 Tennessee	43 Texas	44 Utah	45 Vermont	46 Virginia	47 Washington	48 West Virginia	49 Wisconsin	50 Wyoming	Reported Non-Recognition by State Licensing Boards: No. of State Boards reporting full recognition	No. of State Boards reporting college not recognized	Percentage of State Boards reporting full recognition	Marginal Number
1	Albany Medical College	A																																																				50	..	100	1
2	Baylor University School of Medicine	A																																																						50	..	100	2
3	Boston University School of Medicine	A																																																					50	..	100	3
4	Chicago Medical School [1]	C	x	x	x	x	x	x	x	x		x	x	x		x	x	x	x	x	x	x		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	3	47	6	4
5	College of Medical Evangelists	A																																																				50	..	100	5
6	College of Physicians and Surgeons, Boston	C	x	x	x	x	x	x	x	x		x	x	x	x	x	x	x	x	x	x	x		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	2	48	4	6
7	Columbia University College of Physicians and Surg.	A																																																				50	..	100	7
8	Cornell University Medical College	A																																																				50	..	100	8
9	Creighton University College of Medicine	A																																																				50	..	100	9
10	Dartmouth Medical School *	A																																																				50	..	100	10
11	Detroit College of Medicine and Surgery	A																																																				50	..	100	11
12	Eclectic Medical College	B	x							x			x			x											x	x			x				x	x	x			x	x	x					x					x	15	15	30	12
13	Emory University School of Medicine	A																																																				50	..	100	13
14	Georgetown University School of Medicine	A																																																				50	..	100	14
15	George Washington University Medical School	A																																																				50	..	100	15
16	Hahnemann Med. College and Hospital, Philadelphia	A																																																				50	..	100	16
17	Harvard University Medical School	A																																																				50	..	100	17
18	Howard University School of Medicine	A																																																				50	..	100	18
19	Indiana University School of Medicine	A																																																				50	..	100	19
20	Jefferson Medical College	A																																																				50	..	100	20
21	Johns Hopkins University School of Medicine	A																																																				50	..	100	21
22	Kansas City College of Medicine and Surgery [2 4]	C	x			x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	2	48	4	22
23	Kansas City University of Physicians and Surgeons [3]	C	x	x	x	x	x	x	x	x		x	x	x	x	x	x	x	x	x	x	x		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	2	48	4	23
24	Long Island College Hospital	A																																																				50	..	100	24
25	Loyola University Medical Department	A																																																				50	..	100	25
26	Marquette University School of Medicine	A																																																				50	..	100	26
27	Medical College of the State of South Carolina	A																																																				50	..	100	27
28	Medical College of Virginia	A																																																				50	..	100	28
29	Meharry Medical College	A																						x																															49	1	98	29
30	Middlesex College of Medicine and Surgery	C	x	x	x	x	x	x	x	x		x	x	x	x	x	x	x	x	x	x	x		x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	2	48	4	30
31	New York Homeo. Med. College and Flower Hospital	B	x			x				x			x			x	x										x	x			x				x			x	x			x	x	x	x				x			x	31	19	62	31
32	Northwestern University Medical School	A																																																				50	..	100	32
33	Ohio State University College of Medicine	A																																																				50	..	100	33
34	Rush Medical College (University of Chicago)	A																																																				50	..	100	34
35	St. Louis College of Physicians and Surgeons [4 5]	C	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	0	50	0	35
36	St. Louis University School of Medicine	A																																																				50	..	100	36
37	Stanford University School of Medicine	A																																																					50	..	100	37
38	State University of Iowa College of Medicine	A																																																				50	..	100	38
39	Syracuse University College of Medicine	A																																																				50	..	100	39
40	Temple University School of Medicine	B	x			x				x		x		x	x		x	x						x			x	x				x	x			x	x			x	x	x	x					x			x	26	24	52	40
41	Tufts College Medical School	A																																																				50	..	100	41
42	Tulane University School of Medicine	A																																																				50	..	100	42
43	University and Bellevue Hospital Medical College	A																																																				50	..	100	43
44	University of Alabama School of Medicine *	A																																																				50	..	100	44
45	University of Arkansas School of Medicine	A																																																				50	..	100	45
46	University of Buffalo School of Medicine	A																																																				50	..	100	46
47	University of California Medical School	A																																																				50	..	100	47
48	University of Cincinnati Medical College	A																																																				50	..	100	48
49	University of Colorado School of Medicine	A																																																				50	..	100	49
50	University of Georgia Medical Department	A																																																				50	..	100	50
51	University of Illinois College of Medicine	A																																																				50	..	100	51
52	University of Kansas School of Medicine	A																																																				50	..	100	52
53	University of Louisville School of Medicine	A																																																				50	..	100	53
54	Univ. of Md. School of Med. and Coll. of P. and S.	A																																																				50	..	100	54
55	University of Michigan Medical School	A																																																				50	..	100	55
56	University of Minnesota Medical School	A																																																				50	..	100	56
57	University of Mississippi Department of Medicine *	A																																																				50	..	100	57
58	University of Missouri School of Medicine *	A																																																				50	..	100	58
59	University of Nebraska College of Medicine	A																																																				50	..	100	59
60	University of North Carolina School of Medicine *	A																																																				50	..	100	60

| | | |

geons by the osteopathic board. Altogether 130 osteopaths—graduates of colleges decidedly inferior to the lowest grade medical schools—were licensed as physicians and surgeons during 1927.

TABLE 6.—*Registration by State Boards During the Year 1927*

States	By Examination			By Reciprocity or Credentials	Without Written Examination or Under Exemption	Total Registered
	Graduates of Medical Schools	Nongraduates	Graduates of Nondescript Colleges			
Alabama	35	..	..	11	..	46
Arizona	10	..	..	24	..	34
Arkansas	48	..	..	9	..	57
California	232	..	88	328	..	648
Colorado	60	4	11	55	..	130
Connecticut	57	..	..	33	1	91
Delaware	2	..	..	7	..	9
District of Columbia	99	..	..	14	..	113
Florida	90	..	..	...	..	90
Georgia	67	..	..	22	..	89
Idaho	17	..	..	14	..	31
Illinois	377	..	..	106	..	483
Indiana	103	..	..	45	..	148
Iowa	91	..	..	27	..	118
Kansas	56	..	..	25	..	81
Kentucky	72	..	..	36	1	109
Louisiana	99	..	..	15	..	114
Maine	25	..	..	10	..	35
Maryland	96	..	..	27	1	124
Massachusetts	170	..	25	27	..	222
Michigan	217	..	..	79	..	296
Minnesota	137	..	..	46	..	183
Mississippi	20	1	..	20	..	41
Missouri	124	..	..	34	5	163
Montana	9	..	..	13	..	22
Nebraska	96	..	..	11	..	107
Nevada	7	..	..	17	..	24
New Hampshire	5	..	..	21	..	26
New Jersey	57	..	..	177	..	234
New Mexico	...	..	..	24	..	24
New York	806	..	..	157	18	1,071
North Carolina	91	..	..	38	..	129
North Dakota	16	..	..	3	..	19
Ohio	243	..	..	109	..	352
Oklahoma	50	..	..	54	..	104
Oregon	41	..	..	25	..	66
Pennsylvania	363	..	..	63	..	426
Rhode Island	24	..	..	...	..	24
South Carolina	37	..	..	12	..	49
South Dakota	9	..	..	9	..	18
Tennessee	133	..	..	17	1	151
Texas	127	..	6	151	..	284
Utah	5	..	..	9	..	14
Vermont	22	..	..	8	..	30
Virginia	103	..	..	29	..	132
Washington	27	..	..	45	1	73
West Virgina	55	4	..	43	..	102
Wisconsin	38	..	..	48	..	86
Wyoming	2	..	..	14	..	16
U. S. Terr. and Poss.	169	..	..	...	..	169
Totals	4,929	9	130	2,111	28	7,207

This table shows the number of physicians registered in each state during 1927 by examination, reciprocity and endorsement of credentials. The first three columns show those registered by examination, including graduates and nongraduates, or osteopaths who were licensed as physicians and surgeons. The fourth column shows the number registered by the endorsement of licenses issued by other states (reciprocity) and of certificates of the Army, Navy, Public Health Service and of the National Board of Medical Examiners. The fifth column shows the number of candidates licensed under exemption clauses because of high professional standing. Osteopaths were licensed as physicians and surgeons in California, 88; Massachusetts, 25; Colorado, 11, and Texas, 6. The last column shows for each state the total number of physicians registered during 1927. Five states registered over 300 each, these being New York, 1,071; California, 648; Illinois, 483; Pennsylvania, 426, and Ohio, 352. The total registration was 7,207, an increase of 190 over 1926.

TOTAL REGISTRATION IN FIVE YEARS

Table 7 permits the reader to note the registration in each state for the last five years. In the totals registered there was an increase during the first four years, but a slight decrease in the last year.

In 1927, the total registered was 7,207, a decrease of sixteen since 1926, which shows a reaction to the general increases in the numbers registered in 1926. Marked decreases since 1926 are noted in Florida and Wisconsin, while increases are noteworthy in Illinois, Massachusetts, New Jersey, Pennsylvania and Texas. During the last five years New York registered 4,823, the highest number, followed by California with 3,092, Illinois with 2,169, Pennsylvania with 1,813, Ohio with 1,801, and Michigan with 1,551. The three lowest registrations are Delaware with 56, Wyoming with 74 and New Hampshire with 98.

MEDICAL TRAINING OF APPLICANTS LICENSED IN 1927

Table 8 is of especial interest, since it shows for each state the numbers of candidates coming from medical schools rated in classes A, B and C, thereby indicating the character of the medical training of the candidates licensed during 1927. Of the 7,207 candidates registered, 5,068 were licensed by examination and 2,139 by reciprocity or on presentation of acceptable credentials. Those who graduated prior to 1907, when the first classification of medical colleges was completed and graduates of foreign colleges are included among graduates of "Miscellaneous Colleges." Among the graduates of class C schools are included 130 osteopaths, who were licensed as physicians: in California, 88; Colorado, 11; Massachusetts, 25, and Texas, 6.

The largest number of class C graduates was licensed in California with 96, Colorado and Illinois with 40 each, Massachusetts with 39, and Texas with 25. Pennsylvania registered 61 class B graduates—the largest number—followed by New York with 55, Ohio with 29, California with 19 and Texas with 18. In 1927, only class A graduates were registered by either examination or reciprocity in Delaware, North Carolina, South Dakota and Utah.

TABLE 7.—*Registration by State Boards for Five Years*

State	1923	1924	1925	1926	1927	Totals
Alabama	53	50	47	84	46	280
Arizona	27	26	30	32	34	149
Arkansas	79	51	80	54	57	321
California	602	638	584	530	648	3,002
Colorado	102	86	108	152	130	578
Connecticut	101	107	116	92	91	507
Delaware	12	11	12	12	9	56
District of Columbia	79	90	119	113	113	514
Florida	72	157	438	196	90	953
Georgia	95	100	98	104	89	486
Idaho	12	16	15	24	31	98
Illinois	427	432	358	469	483	2,169
Indiana	142	157	161	136	148	744
Iowa	70	101	139	127	118	555
Kansas	102	90	93	117	81	483
Kentucky	67	88	94	104	109	462
Louisiana	76	81	81	88	114	440
Maine	32	68	51	46	35	232
Maryland	122	111	139	134	124	630
Massachusetts	221	206	153	256	222	1,118
Michigan	282	319	335	319	296	1,551
Minnesota	147	180	205	214	183	929
Mississippi	45	33	41	45	41	205
Missouri	216	191	165	158	163	893
Montana	20	26	24	18	22	110
Nebraska	118	99	134	113	107	571
Nevada	20	23	11	19	24	97
New Hampshire	10	22	20	20	26	98
New Jersey	208	124	74	55	234	695
New Mexico	31	16	21	17	24	109
New York	754	881	1,078	1,039	1,071	4,823
North Carolina	111	128	118	126	129	612
North Dakota	16	14	30	28	19	107
Ohio	307	388	383	371	352	1,801
Oklahoma	76	48	67	78	104	373
Oregon	44	57	93	68	66	328
Pennsylvania	256	343	367	421	426	1,813
Rhode Island	26	20	25	26	24	121
South Carolina	45	41	51	44	49	230
South Dakota	28	51	24	26	18	127
Tennessee	114	116	119	146	151	646
Texas	201	98	242	328	284	1,153
Utah	24	18	26	43	14	125
Vermont	30	36	59	43	30	198
Virginia	98	104	117	128	132	579
Washington	74	116	113	115	73	491
West Virginia	106	84	80	83	102	455
Wisconsin	104	189	165	139	86	683
Wyoming	13	19	12	14	16	74
U. S. Possessions	214	63	79	109	169	634
Totals	6,321	6,552	7,194	7,223	7,207	34,496

This table shows the totals registered in each state during the last five years. Decreases are noteworthy in Florida, Kansas, Washington and Wisconsin. Marked increases over 1926 are noted in California and New Jersey. During the four years following 1923 the totals registered increased from 6,321 in 1923 to 7,223 in 1926, the largest number registered since 1910. Since 1926 there was a decrease of 16.

Of the 7,207 physicians registered by all methods in 1927, 6,077, or 84.3 per cent, graduated from class A medical colleges; 296, or 4.1 per cent, from class B colleges; 276, or

3.8 per cent, from class C colleges, and 558, or 7.6 per cent, graduated prior to 1907 when the first classification of medical colleges was prepared, or came from foreign medical colleges. By comparing these figures with the results for the previous seven years as shown in table 9, it is noteworthy that the percentages from class B colleges are steadily decreasing, and the percentage of graduates of class A colleges is increasing.

The number of class C graduates licensed in each of several states during the six years should be noted. Note the increase in California due to the osteopathic board; the steady but large numbers in Colorado, Illinois, Massachusetts, and the increasing numbers in Texas. Note the big drop in the numbers licensed in Connecticut since 1923. In Illinois, the numbers of class C graduates licensed are increasing, as that state harbors the Chicago Medical School, a typical class C institution. In Massachusetts besides the registration of

TABLE 8.—*Qualifications of Physicians Licensed in 1927*

Marginal Number	STATE	By Examination					By Reciprocity or Credentials					Totals Registered from Medical Colleges in Class				Grand Totals	Marginal Number
		Medical Colleges in Class				Totals	Medical Colleges in Class				Totals						
		A	B	C	Misc.		A	B	C	Misc.		A	B	C	Misc.		
1	Alabama	34	1	..	..	35	11	..	..	..	11	45	1	..	..	46	1
2	Arizona	8	..	1	1	10	11	5	1	7	24	19	5	2	8	34	2
3	Arkansas	44	2	2	..	48	6	..	..	3	9	50	2	2	3	57	3
4	California	217	1	88	14	320	252	18	8	50	328	469	19	96	64	648	4
5	Colorado	35	..	36	4	75	37	3	4	11	55	72	3	40	15	130	5
6	Connecticut	52	2	2	1	57	31	..	..	3	34	83	2	2	4	91	6
7	Delaware	2	..	..	..	2	7	..	..	..	7	9	..	..	..	9	7
8	District of Columbia	98	1	..	..	99	11	2	..	1	14	109	3	..	1	113	8
9	Florida	73	6	1	10	90	..	..	..	..	..	73	6	1	10	90	9
10	Georgia	65	1	1	..	67	20	1	..	1	22	85	2	1	1	89	10
11	Idaho	10	1	1	5	17	12	..	..	2	14	22	1	1	7	31	11
12	Illinois	321	3	40	13	377	93	5	..	5	106	417	8	40	18	483	12
13	Indiana	101	2	..	..	103	38	2	..	5	45	139	4	..	5	148	13
14	Iowa	90	..	..	1	91	24	1	..	2	27	114	1	..	3	118	14
15	Kansas	54	..	..	2	56	23	1	..	1	25	77	1	..	3	81	15
16	Kentucky	65	5	..	2	72	29	3	1	4	37	94	8	1	6	109	16
17	Louisiana	94	3	..	2	99	14	..	..	1	15	108	3	..	3	114	17
18	Maine	22	2	..	1	25	10	..	..	..	10	32	2	..	1	35	18
19	Maryland	92	3	..	1	96	26	..	..	2	28	118	3	..	3	124	19
20	Massachusetts	152	2	39	2	195	27	..	..	..	27	179	2	39	2	222	20
21	Michigan	211	4	..	2	217	67	6	..	6	79	278	10	..	8	296	21
22	Minnesota	135	..	..	2	137	45	1	..	..	46	180	1	..	2	183	22
23	Mississippi	20	..	1	..	21	18	..	..	2	20	38	..	1	2	41	23
24	Missouri	122	..	1	1	124	33	1	1	4	39	155	1	2	5	163	24
25	Montana	8	..	..	1	9	9	1	..	3	13	17	1	..	4	22	25
26	Nebraska	91	..	..	2	96	6	1	1	3	11	100	1	1	5	107	26
27	Nevada	3	2	1	1	7	11	..	2	4	17	14	2	3	5	24	27
28	New Hampshire	3	2	..	..	5	16	2	1	2	21	19	4	1	2	26	28
29	New Jersey	50	4	..	3	57	145	10	1	21	177	195	14	1	24	234	29
30	New Mexico	..	..	..	..	..	15	2	1	6	24	15	2	1	6	24	30
31	New York	750	53	1	83	886	142	2	1	30	175	901	55	2	113	1,071	31
32	North Carolina	90	..	..	1	91	34	..	..	4	38	124	..	..	5	129	32
33	North Dakota	16	..	..	..	16	2	1	..	..	3	18	1	..	..	19	33
34	Ohio	214	25	..	4	243	94	4	..	11	109	308	29	..	15	352	34
35	Oklahoma	50	..	..	..	50	48	2	2	2	54	98	2	2	2	104	35
36	Oregon	40	..	..	1	41	20	2	..	3	25	60	2	..	4	66	36
37	Pennsylvania	296	60	1	6	363	61	1	..	1	63	357	61	1	7	426	37
38	Rhode Island	23	1	..	..	24	..	..	..	..	..	23	1	..	..	24	38
39	South Carolina	37	..	..	..	37	9	1	1	1	12	46	1	1	1	49	39
40	South Dakota	8	..	..	1	9	8	..	..	1	9	16	..	..	2	18	40
41	Tennessee	132	..	..	1	133	15	2	..	1	18	147	2	..	2	151	41
42	Texas	108	..	6	19	133	92	18	19	22	151	200	18	25	41	284	42
43	Utah	5	..	..	..	5	8	..	..	1	9	13	..	..	1	14	43
44	Vermont	22	..	..	..	22	5	1	..	2	8	27	1	..	2	30	44
45	Virginia	100	1	..	2	103	26	1	2	..	29	126	2	2	2	132	45
46	Washington	23	2	..	2	27	40	1	..	5	46	63	3	..	7	73	46
47	West Virginia	54	..	4	1	59	36	2	..	5	43	90	2	4	6	102	47
48	Wisconsin	35	1	..	2	38	43	2	1	2	48	78	3	1	4	86	48
49	Wyoming	2	..	..	..	2	11	1	..	2	14	13	1	..	2	16	49
50	U. S. Territories and Possessions	44	..	3	122	169	..	..	..	..	..	44	..	3	122	169	50
	Totals	4,333	190	229	316	5,068	1,744	106	47	242	2,139	6,077	296	276	558	7,207	

Of the 96 class C graduates in California, 88 were osteopaths licensed as physicians and surgeons by the osteopathic board; of the 40 licensed in Colorado, 11 were osteopaths and 4 were nongraduates; of the 39 licensed in Massachusetts, 25 were osteopaths and 14 were graduates of low grade medical schools.

In Connecticut in 1927, only 2 class C graduates were licensed.

Of the 25 class C graduates licensed in Texas, 6 were osteopaths who were licensed as physicians and surgeons.

Illinois harbors the Chicago Medical School, a class C medical college, which is not recognized in 47 other states, and which accounts for the 40 class C graduates licensed. Massachusetts has two class C colleges, the College of Physicians and Surgeons and the Middlesex College of Medicine and Surgery, but does not have the authority to refuse recognition to low grade institutions, which accounts for the large number of class C graduates licensed in that state. Missouri has three class C colleges, the Kansas City University of Physicians and Surgeons, the American Medical University and the Missouri College of Medicine and Science, but in 1927 the Missouri board registered only 2 class C graduates.

Altogether 7 class C graduates were licensed by reciprocity in states which registered none by examination. In 1927, 229 class C graduates were licensed by examination and 47 through reciprocity, a total of 276, 42 more than in 1926.

TABLE 9.—*Source of Physicians Licensed in Ten Years*

Year	From Medical Colleges in						Miscellaneous and Foreign		Total
	Class A		Class B		Class C				
	Number	Per Cent.	Number	Per Cent.	Number	Per Cent.	Number	Per Cent.	
1918	2,456	58.7	682	16.3	342	8.2	705	16.8	4,185
1919	4,308	66.4	872	13.2	278	4.2	1,066	16.2	6,584
1920	4,597	70.2	631	9.6	275	4.2	1,054	16.0	6,557
1921	4,445	70.0	585	9.2	394	6.2	924	14.6	6,348
1922	3,999	72.8	444	8.1	316	5.7	738	13.4	5,497
1923	4,755	75.2	380	6.0	299	4.8	887	14.1	6,321
1924	5,196	79.3	404	6.2	129	1.9	824	12.6	6,553
1925	5,852	81.3	382	5.3	171	2.4	789	11.0	7,194
1926	6,045	83.7	322	4.4	263	3.6	593	8.2	7,223
1927	6,077	84.3	296	4.1	276	3.8	558	7.7	7,207
Totals	47,790	75.0	4,998	7.8	2,743	4.3	8,138	12.8	63,669

TRAINING OF PHYSICIANS REGISTERED IN SIX YEARS

Table 10 is of especial interest and shows the character of the physicians registered during the last six years. It is noteworthy that of the 39,990 physicians registered in six years, 31,921, or 79.8 per cent, were graduates of class A medical schools; 2,228, or 5.6 per cent, were graduates of class B schools, and 1,452, or 3.6 per cent, were graduates of class C schools. Graduates of foreign medical schools and those who graduated prior to 1907 from medical schools which, since that year, have not always been rated in class A have been grouped under "Miscellaneous Graduates"; and during the six years, 4,389 of these graduates were registered.

The largest number of candidates registered during the six years who graduated from class C or nonmedical colleges was 281 in Massachusetts, followed by California with 245, Connecticut with 154, Illinois with 156, Texas with 110, Colorado with 104 and Arkansas with 86.

osteopaths there are also two class C colleges, the board not having the authority to decide whether or not a medical school is "reputable." Although Missouri still harbors three of the class C schools, the board persistently refuses recognition to them, so that only a few succeed in obtaining licenses in that state, including the two who were licensed in 1927.

Registration by Reciprocity

Table 11 shows the numbers of physicians registered in 1927 without examination on presentation of satisfactory credentials, which included a license issued by some other state were licensed in 1927 on the basis of "reciprocity"—without being compelled to undergo a second trying examination.

Table 12 shows what boards granted the original licenses of those registered elsewhere under the reciprocity provision during the last five years. Of the 9,727 physicians so licensed the largest number coming from any one state was 997, who obtained their original licenses in Illinois. New York has a larger number of medical college graduates each year than Illinois, but only 540 physicians obtained original licenses in New York and registered elsewhere through reciprocity in the last five years. This is accounted for by the fact that

Table 10.—*Qualifications of Physicians Licensed by State Medical Boards in Six Years*

Mar. No.	State	Graduates of Class A Medical Schools							Graduates of Class B Medical Schools							Graduates of Class C Medical Schools							Grads. of Misc. Colleges 6 Yrs.	Total Registrations 6 Yrs.	Mar. No.
		1922	1923	1924	1925	1926	1927	Total	1922	1923	1924	1925	1926	1927	Total	1922	1923	1924	1925	1926	1927	Total			
1	Alabama	28	46	40	43	77	45	279	8	5	4	1	6	1	25	0	0	0	1	0	0	1	18	323	1
2	Arizona	16	15	17	18	22	19	107	2	1	5	2	4	5	19	1	1	0	3	0	2	7	53	183	2
3	Arkansas	24	24	27	42	35	50	202	15	8	9	8	6	2	48	18	36	1	21	8	2	86	51	387	3
4	California	349	459	461	433	392	469	2,563	74	56	46	33	26	19	254	63	17	8	12	49	96	245	660	3,722	4
5	Colorado	62	59	49	63	85	72	390	8	6	7	10	8	3	42	14	21	17	18	44	40	154	111	697	5
6	Connecticut	34	62	94	97	86	83	486	6	2	3	9	4	2	26	74	27	0	1	0	2	104	41	657	6
7	Delaware	16	9	6	8	8	9	56	2	2	2	2	2	0	10	3	0	0	0	0	0	3	9	78	7
8	Dist. Columbia	59	66	76	104	102	109	516	0	2	3	1	3	3	12	4	5	3	3	3	0	18	37	583	8
9	Florida	42	60	117	347	165	73	804	3	4	7	35	6	6	61	1	1	4	2	3	1	12	132	1,009	9
10	Georgia	75	87	92	96	98	85	533	3	4	3	0	1	2	13	0	2	2	1	1	1	7	17	570	10
11	Idaho	15	7	12	8	21	22	85	3	2	4	2	0	1	12	1	0	0	0	0	1	2	20	119	11
12	Illinois	288	341	309	265	393	417	2,013	23	27	31	32	16	8	137	10	25	18	23	40	40	156	198	2,504	12
13	Indiana	53	111	116	133	122	139	674	4	10	20	8	8	4	54	0	1	1	3	0	0	5	80	813	13
14	Iowa	64	64	84	123	120	114	569	2	1	6	3	6	1	19	0	0	3	3	0	0	6	31	625	14
15	Kansas	56	55	71	81	106	77	446	10	11	8	3	4	1	37	4	21	2	2	0	0	29	57	569	15
16	Kentucky	41	54	71	78	85	94	423	11	6	8	6	13	8	52	4	3	2	2	1	1	13	40	528	16
17	Louisiana	54	68	78	79	85	108	472	3	3	3	1	0	3	13	2	0	0	1	3	0	6	13	504	17
18	Maine	29	29	55	41	41	32	227	0	2	3	3	1	2	11	1	0	0	0	0	0	1	27	266	18
19	Maryland	81	109	92	120	122	118	642	2	5	4	4	4	3	22	1	0	2	2	2	0	7	52	723	19
20	Massachusetts	178	138	190	114	183	179	982	2	3	5	3	1	2	16	51	59	46	31	55	39	281	83	1,362	20
21	Michigan	161	238	283	301	280	278	1,541	7	10	13	11	11	10	62	2	1	1	1	3	0	8	141	1,752	21
22	Minnesota	178	138	157	194	207	180	1,054	0	2	3	4	2	1	18	0	0	0	0	0	0	0	57	1,129	22
23	Mississippi	25	35	28	32	33	38	191	8	4	3	5	4	0	24	3	0	0	2	2	1	8	25	248	23
24	Missouri	109	148	182	166	147	155	901	4	16	0	2	5	1	28	7	38	1	1	0	2	49	45	1,023	24
25	Montana	10	15	22	19	17	17	100	0	3	1	3	1	1	9	0	0	0	0	0	0	0	12	121	25
26	Nebraska	52	108	92	132	108	100	592	5	3	0	1	0	1	10	0	0	0	0	2	1	3	28	633	26
27	Nevada	5	5	8	8	14	14	54	3	3	1	0	1	2	10	5	6	4	1	1	3	20	37	121	27
28	New Hampshire	8	9	16	17	19	19	88	1	0	2	0	1	4	8	1	0	0	0	0	1	2	12	110	28
29	New Jersey	99	152	81	51	46	195	624	5	9	7	3	2	14	40	5	1	1	0	0	1	8	160	832	29
30	New Mexico	15	14	7	11	11	15	73	5	3	3	1	2	2	16	0	1	0	0	1	1	3	58	150	30
31	New York	630	648	703	836	874	901	4,592	53	39	62	74	67	55	350	5	1	0	1	0	2	9	620	5,571	31
32	North Carolina	52	86	109	110	118	124	599	4	13	5	3	0	0	25	0	2	1	0	1	0	4	50	678	32
33	North Dakota	10	13	8	28	28	18	105	0	3	2	1	0	1	7	0	0	0	0	0	0	0	9	121	33
34	Ohio	188	250	302	321	347	308	1,716	46	25	33	36	11	29	180	1	0	1	2	0	0	4	162	2,062	34
35	Oklahoma	32	47	33	56	67	98	333	15	11	5	3	4	2	40	0	4	2	1	0	2	15	63	451	35
36	Oregon	28	36	44	77	63	60	308	1	5	6	4	1	2	19	1	1	1	0	1	0	4	44	375	36
37	Pennsylvania	261	229	304	325	352	357	1,828	22	17	29	20	45	61	194	5	0	0	0	4	1	10	94	2,126	37
38	Rhode Island	22	25	17	20	20	23	127	0	0	0	0	0	1	1	0	0	0	0	0	0	0	20	148	38
39	South Carolina	24	39	39	45	42	46	235	2	4	2	3	0	1	12	0	1	0	1	0	1	3	10	260	39
40	South Dakota	15	23	23	20	21	16	118	2	0	0	1	2	0	5	0	0	2	0	2	0	4	22	149	40
41	Tennessee	35	110	113	116	142	147	663	26	1	2	0	2	2	33	2	0	1	2	0	0	5	10	711	41
42	Texas	108	135	94	163	212	200	913	22	19	0	16	21	18	93	8	18	2	23	34	25	110	212	1,331	42
43	Utah	24	23	17	23	40	13	140	1	0	0	1	0	0	2	0	0	0	0	0	0	0	10	152	43
44	Vermont	21	26	34	56	40	27	204	0	0	0	0	1	1	2	0	0	0	0	0	0	0	13	219	44
45	Virginia	70	86	99	111	123	126	615	4	2	2	1	2	2	13	2	2	1	2	1	2	10	21	659	45
46	Washington	38	45	65	86	97	63	394	7	11	13	10	4	3	48	0	0	1	3	1	0	5	103	550	46
47	West Virginia	66	91	71	71	74	90	463	5	4	1	3	2	2	17	4	0	0	0	0	4	8	49	537	47
48	Wisconsin	88	87	140	154	115	78	642	5	9	28	9	9	3	63	1	3	0	2	1	1	8	89	796	48
49	Wyoming	5	8	14	11	12	13	63	3	3	0	0	1	1	8	5	0	1	0	0	0	6	14	91	49
50	U. S. Territories and Possessions	23	22	34	25	28	44	176	1	1	0	1	2	0	5	0	0	0	0	0	3	3	478	662	50
	Totals	3,006	4,755	5,196	5,852	6,045	6,077	31,921	441	380	404	382	322	299	2,228	315	298	129	171	263	276	1,452	4,389	39,990	

Of the 86 graduates of low grade colleges licensed in Arkansas during the last six years, all but two were licensed by the Eclectic Board of Medical Examiners.

During the six years, 245 graduates of inferior colleges were licensed in California, including 183 osteopaths who were licensed as physicians. None were examined by the Board of Medical Examiners since 1922 when a separte osteopathic board was created. The latter board licensed some osteopaths as physicians and surgeons, and in 1927 licensed 88.

Of the 154 class C graduates licensed in Colorado, 39 were osteopaths who were licensed with the same privileges as physicians.

Since 1923, in Connecticut only 3 graduates of class C colleges have been certified and one of these was refused a license by the commissioner of health.

Illinois and Massachusetts are two of the three states which harbor class C medical colleges and examine their graduates, which accounts for the 156 and 281 class C graduates licensed, respectively, in those states. Although there are still three class C colleges in Missouri, the board has refused to recognize their graduates. The 38 class C graduates licensed in 1923 were the result of an amendment to the practice law which, however, was soon repealed. Only 49 class C graduates were registered in the last six years.

Of the 110 graduates of low grade institutions licensed in Texas during the six years, 35 were osteopaths who have the same privileges as physicians.

board or by the National Board of Medical Examiners. An increasing number of state boards now accept a physician's credentials if satisfactory, whether or not the state board issuing the original license returns the favor. These boards are those of:

Arizona	Idaho	New Mexico
California	Michigan	North Carolina
Colorado	Nebraska	Pennsylvania
Delaware	New Hampshire	Texas
District of Columbia	New Jersey	

The registration without examination of diplomates of the National Board of Medical Examiners has increased from only two in 1917 to 167 in 1927. Altogether, 2,139 physicians Illinois has reciprocal relations with twenty-eight states, while New York has relations with only nine.

Improved Standards of Licensure

Table 13 shows the states that have adopted one or two years of college work as a minimum standard of preliminary education for those who seek the license to practice medicine, and also the states that require a year's internship in a hospital. The first, third and fifth columns show, respectively, when the requirements affected students matriculating in medical colleges, and the second, fourth and sixth columns give the years in and after which all applicants for licenses are affected by the requirement. This table shows the rapidity with

TABLE 11.—*Physicians Registered Through Reciprocity and Endorsement by State Examining Boards During 1927*

Number		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53
	Total Regis. by Recip. Ex. State	Alabama	Arizona	Arkansas	California	Colorado	Connecticut	Delaware	Dist. Columbia	Florida	Georgia	Idaho	Illinois	Indiana	Iowa	Kansas	Kentucky	Louisiana	Maine	Maryland	Massachusetts	Michigan	Minnesota	Mississippi	Missouri	Montana	Nebraska	Nevada	New Hampshire	New Jersey	New Mexico	New York	North Carolina	North Dakota	Ohio	Oklahoma	Oregon	Pennsylvania	Rhode Island	South Carolina	South Dakota	Tennessee	Texas	Utah	Vermont	Virginia	Washington	West Virginia	Wisconsin	Wyoming	U.S.A.,U.S.N.,etc	Nat. Bd. Med. Ex.	U.S. Territories	Canadian and Foreign
Alabama	11	..	..	..	..	..	..	..	..	..	1	..	1	..	1	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	4	..	..	..	..	..	..	..	..	1	..	..	..
Arizona	24	..	..	..	4	2	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	2	..	1	1	..	1	..	..	..	2	..	..	3	..	..	..	..	..	3	..	1	..	..	..	..	..	..	..	..	..	..	2
Arkansas	9	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	1	..	..	..	2	..	..	..	..	..	..	2	..	..	1	..	..	..	..	..	..	..	..
California	328	1	..	2	..	6	2	..	2	3	3	1	4	49	9	32	8	2	1	5	5	11	9	..	22	6	22	2	1	4	..	27	1	4	10	4	15	15	..	1	6	3	6	6	..	1	5	1	2	1	7	..	1	....
Colorado	55	..	..	..	..	..	..	..	1	..	..	..	6	2	3	3	..	..	..	..	1	1	1	..	7	2	6	..	..	..	..	2	..	1	5	1	..	1	..	..	1	..	3	1	..	..	2	..	..	1	..	3	1	..	1
Connecticut	34	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1	1	..	..	2	1	1	..	..	..	..	..	..	2	..	..	14	..	..	1	..	..	..	1	..	..	..	1	..	..	..	2	..	..	..	..	1	5	..	....
Delaware	7	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..	....
Dist. of Col.	14	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	1	3	..	..	..	..	..	..	..	..	..	..	..	2	1	..	..	..	..	1	..	..	..	..	..	..	..	..	2	..	1	..	..	..	1	....
Florida	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....
Georgia	22	1	..	..	..	..	..	..	1	..	..	..	..	..	..	1	2	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	3	..	..	..	..	..	2	..	6	..	..	..	1	..	..	..	..	3	..	..	....
Idaho	14	..	..	..	1	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	2	..	..	1	..	1	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	3	..	2	..	..	..	..	..	..	..	....
Illinois	106	2	..	..	3	1	..	..	..	..	..	..	..	4	4	4	1	3	3	4	..	5	6	1	3	1	9	..	..	..	..	..	1	4	1	..	10	..	..	..	4	1	2	3	1	..	1	6	..	6	12	..	....
Indiana	45	..	..	..	..	2	..	..	..	..	..	..	12	1	3	3	4	..	..	..	..	5	..	..	1	..	2	..	..	..	..	2	..	..	4	..	1	..	1	..	2	..	..	1	..	..	1	..	1	..	..	..	....
Iowa	27	..	..	..	..	1	..	..	1	..	..	..	7	..	..	..	1	..	2	1	..	..	2	..	3	..	4	..	..	..	..	..	..	..	1	1	..	..	..	..	1	..	..	..	..	..	2	..	..	..	..	..	....
Kansas	25	..	..	..	1	1	..	..	1	..	..	..	6	1	2	..	..	..	..	1	..	2	1	..	..	..	2	..	..	..	..	..	..	..	..	3	..	..	..	..	1	1	..	1	..	..	..	1	..	..	..	..	....
Kentucky	37	..	..	..	..	..	..	..	1	..	2	..	3	1	2	..	..	..	..	1	1	1	..	1	1	..	..	..	..	..	..	2	..	2	4	..	..	..	1	..	5	..	..	..	3	..	2	..	..	2	2	..	....
Louisiana	15	2	..	..	..	..	..	..	..	..	1	..	..	..	1	..	..	..	..	1	..	1	1	1	2	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	..	2	..	..	..	..	..	1	..	..	..	..	....
Maine	10	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	2	1	..	..	..	1	..	..	1	..	..	..	..	1	..	..	..	..	..	..	..	2	..	....
Maryland	28	..	..	..	2	..	1	..	3	..	..	..	..	..	..	2	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1	..	2	..	..	3	..	1	..	..	1	..	..	3	..	1	..	..	2	5	..	....
Massachusetts	27	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	27	..	....
Michigan	79	..	..	1	..	..	..	1	1	..	4	..	20	6	3	1	2	..	2	3	2	..	3	..	3	..	7	..	..	..	..	..	..	..	7	1	..	5	..	..	1	4	..	..	..	..	1	1	..	..	..	....
Minnesota	46	..	..	..	2	1	..	..	..	..	2	..	5	1	2	..	..	..	..	3	..	2	..	..	1	..	7	..	..	..	..	..	..	..	3	..	..	2	..	..	2	1	..	1	1	..	4	..	..	6	..	....
Mississippi	20	2	..	..	..	..	..	..	2	..	..	..	2	..	..	..	..	3	..	1	..	..	..	..	2	..	..	..	..	..	..	1	..	..	1	..	..	..	..	..	..	3	1	..	..	1	..	..	1	..	..	..	....
Missouri	39	..	..	2	..	..	..	..	..	..	..	..	2	3	1	12	1	..	..	1	..	2	1	..	..	..	3	..	..	..	..	1	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	1	..	5	2	..	....
Montana	13	..	..	..	3	1	..	..	..	..	..	..	..	..	1	2	..	..	..	..	..	1	3	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	....
Nebraska	11	..	..	..	..	..	..	..	..	..	..	..	1	1	1	1	..	..	..	..	..	2	1	..	..	..	..	..	..	..	..	..	..	..	1	..	..	1	..	..	1	1	..	..	..	..	..	..	..	..	..	..	....
Nevada	17	..	..	..	3	1	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	1	..	1	..	..	2	..	..	1	..	1	2	..	..	..	..	..	..	1	..	....
New Hampsh'e	21	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	..	8	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	6	..	..	..	1	..	..	..	....
New Jersey	177	..	..	1	1	1	1	6	..	2	..	..	3	1	1	..	..	1	2	5	2	3	2	1	..	..	..	..	..	..	..	87	3	..	5	..	26	3	1	..	1	2	..	4	3	..	1	..	..	..	7	..	....
New Mexico	24	..	..	1	..	3	..	..	1	..	..	..	1	..	..	..	..	..	..	1	..	..	..	6	..	1	..	..	..	..	..	1	..	..	2	..	1	..	..	..	2	..	..	1	..	..	..	2	..	..	..	..	....
New York	175	..	..	..	6	1	4	1	1	..	1	..	4	1	4	..	..	1	1	3	9	3	1	..	1	..	2	..	13	..	..	..	1	..	16	..	..	8	..	1	..	1	2	..	3	12	..	..	2	..	18	44	6	4
No. Carolina	38	1	..	..	..	..	..	..	..	..	3	..	..	..	..	..	1	..	1	1	..	..	..	..	..	..	..	..	..	..	..	4	..	..	..	..	3	..	11	..	..	2	..	..	3	..	1	..	..	..	6	..	1
No. Dakota	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	....
Ohio	109	..	..	2	2	..	..	..	3	..	2	..	5	9	5	5	8	1	..	5	..	10	1	1	3	..	1	..	2	..	..	9	3	..	..	1	..	6	..	..	..	7	..	..	..	2	1	5	3	..	7	..	....
Oklahoma	54	1	..	13	..	..	..	..	1	..	..	..	3	..	..	5	2	..	..	..	..	1	1	3	4	1	2	..	..	..	..	..	..	..	2	..	..	1	..	..	..	3	7	..	..	..	..	1	..	..	3	..	....
Oregon	25	..	..	..	3	..	..	..	..	..	..	2	3	..	1	1	..	..	..	1	..	2	1	..	..	..	2	..	..	..	..	..	..	..	..	..	..	1	1	1	2	..	..	..	3	..	1	..	..	..	..	..	....
Pennsylvania	63	..	..	..	1	..	1	1	1	..	..	..	2	..	1	1	..	..	1	3	1	6	2	..	..	..	1	..	5	..	3	1	..	2	..	..	..	..	..	1	..	..	2	..	1	..	..	4	22	..	..	....
Rhode Island	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....
So. Carolina	12	1	..	..	..	..	..	..	..	..	6	..	..	..	..	..	1	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....
So. Dakota	9	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5	..	..	..	..	..	..	..	..	..	..	..	3	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....
Tennessee	18	2	..	1	1	..	..	..	..	..	1	..	..	..	..	..	3	2	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	2	..	1	..	..	1	1	..	....
Texas	151	4	..	9	5	2	1	..	..	1	4	1	14	3	10	3	2	11	..	..	1	1	2	2	16	..	10	..	1	..	3	1	2	..	1	14	..	4	..	2	..	13	..	..	..	..	..	3	2	..	2	..	1	....
Utah	9	..	..	..	1	2	..	..	..	..	..	..	1	..	..	..	1	..	..	..	..	..	..	..	2	..	1	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....
Vermont	8	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	4	..	....
Virginia	29	..	..	..	..	..	..	1	3	..	..	..	..	..	..	1	1	..	1	2	..	..	..	..	..	..	..	..	..	..	..	2	1	..	..	..	1	..	2	..	3	..	..	..	..	3	..	4	4	..	....
Washington	46	1	..	..	2	..	..	..	..	1	1	4	..	7	1	..	..	..	..	..	2	3	..	..	3	4	4	..	..	..	..	..	..	1	..	4	..	..	1	1	1	1	..	..	..	1	..	..	..	1	2	..	....
West Virginia	43	1	..	..	..	..	..	3	..	3	..	1	1	..	..	..	3	..	..	7	..	..	..	..	2	..	..	..	..	..	..	..	1	..	6	..	1	..	..	..	3	..	..	11	..	..	..	..	..	..	..	..	....
Wisconsin	48	..	..	..	..	..	..	..	..	2	..	..	15	3	3	..	2	..	1	..	1	1	7	..	4	..	1	..	..	..	..	2	1	..	1	..	..	1	..	..	1	1	..	1	..	..	..	..	..	..	..	....
Wyoming	14	..	..	..	..	..	..	..	..	..	..	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	7	..	..	..	1	..	..	..	..	..	..	2	..	..	..	1	..	..	1	..	..	..	..	..	..	..	....
U.S. Terr. and Possessions	0	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	....
Totals	2139	19	0	32	46	25	10	4	28	7	41	5	131	88	68	78	47	26	23	56	32	68	58	17	84	17	95	3	6	26	4	166	25	13	84	28	20	98	4	27	12	80	35	14	21	53	12	25	31	3	57	167	9	8
Number	....	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53

This table shows the number of physicians registered in each state through the endorsement of other state licenses during 1927. Read from left to right, it shows the total number of physicians registered in the state named and the number of candidates coming from each of the states named at the top of the various columns. Read from above downward, the figures show the number of physicians who left the state named at the head of the column and went to each of the states named at the left in the corresponding lines, and at the bottom is given the total number of candidates leaving the state to go elsewhere. This bottom line shows also the states in which the physicians registered through reciprocity obtained their original licenses. The number licensed by reciprocity in 1927 was 2,139, as compared with 989 so regstered in 1907.

TABLE 12.—*Reciprocal Registration in Five Years (Showing What States Issued Original Licenses)*

State	Physicians Going from States Named During					Total
	1923	1924	1925	1926	1927	
Alabama	25	17	18	18	19	97
Arizona	9	2	4	1	0	16
Arkansas	50	15	31	25	32	153
California	30	16	31	49	46	172
Colorado	21	16	17	22	25	101
Connecticut	12	2	6	7	10	37
Delaware	5	1	1	2	4	13
District of Columbia	25	17	25	29	28	124
Florida	4	8	2	0	7	21
Georgia	58	55	34	32	41	220
Idaho	20	18	15	7	5	65
Illinois	276	248	181	161	131	997
Indiana	49	42	46	44	88	269
Iowa	82	73	73	73	68	369
Kansas	52	50	33	41	78	234
Kentucky	51	46	34	46	47	224
Louisiana	50	27	48	52	26	203
Maine	14	11	19	13	23	80
Maryland	60	55	49	61	56	281
Massachusetts	37	31	43	40	32	183
Michigan	50	64	57	68	68	307
Minnesota	57	59	58	59	58	291
Mississippi	27	26	19	27	11	110
Missouri	120	63	66	93	90	432
Montana	29	28	20	15	17	109
Nebraska	75	80	80	94	95	424
Nevada	5	8	3	3	3	22
New Hampshire	5	5	4	4	6	24
New Jersey	9	16	20	31	26	102

State	Physicians Going from States Named During					Total
	1923	1924	1925	1926	1927	
New Mexico	6	4	2	3	4	19
New York	144	92	72	66	166	540
North Carolina	14	10	14	15	25	78
North Dakota	17	18	10	11	13	69
Ohio	62	73	72	80	84	371
Oklahoma	44	30	38	43	28	183
Oregon	20	18	24	24	20	106
Pennsylvania	118	82	70	63	98	431
Rhode Island	4	1	5	4	4	18
South Carolina	21	17	16	12	27	93
South Dakota	12	16	11	5	12	56
Tennessee	68	70	84	88	80	390
Texas	54	25	42	33	35	199
Utah	12	16	11	12	14	65
Vermont	24	16	14	18	21	93
Virginia	43	44	39	44	56	226
Washington	34	19	29	19	12	113
West Virginia	18	24	31	25	25	123
Wisconsin	31	27	31	35	31	156
Wyoming	10	3	7	5	3	29
Army, Navy, P. H. Service	45	34	33	20	57	189
National Board of Medical Examiners	22	49	67	112	167	417
U. S. Territories and Possessions	3	5	14	11	9	42
Foreign and Misc.	11	5	11	7	8	42
Totals	2144	1787	1784	1873	2139	9727

This table shows that 9,727 physicians were registered through reciprocity during the last five years, an average of 1,946 each year. Since 1925 there has been an increase each year. Note the increasing numbers from the National Board of Medical Examiners. Of the 9,727 candidates registered during the five years, 997 obtained their original licenses in Illinois, the next largest number being 540 in New York.

which higher requirements of preliminary education have been adopted by state boards since 1908. Prior to that year, no state was requiring as a standard of preliminary education more than a high school education, and in thirty states no standards had been fixed. Forty-two states have adopted the higher standard and, of these, thirty-nine require two years of college work which must have included courses in physics, chemistry and biology. The colleges also must have been approved by some reliable standardizing agency. The requirement of two years of college work places medical licensure in the United States on a par with that of other leading countries. As shown in table 14 (and the footnotes), in the

TABLE 13.—*State Requirements of Preliminary Education*

There are now forty-two states (counting Alaska Ter.) which have adopted requirements of preliminary education in addition to a standard four-year high school education. Of this number 39 now require the two year standard. These states, the number of college years required and the time the higher requirements became or become effective, are as follows:

State Examining Board of	One Year of College Work		Two Years of College Work		A Hospital Internship	
	Affects Students Matriculating	Affects All Graduates	Affects Students Matriculating	Affects All Graduates	Affects Students Matriculating	Affects All Applicants
Alabama	.....	....	1915-16	1919	.....	....
Alaska	1914-15	1918	1918-19	1922	1912-13	1917
Arizona	1914-15	1918	1918-19	1922	.....	....
Arkansas [1]	1915-16	1919	1918-19	1922	.....	....
California	1915-16	1919	.....	....	.....	....
Colorado	1908-09	1912	1910-11	1914	.....	....
Connecticut [1]	1915-16	1919	.....	....	.....	....
Delaware*	.....	....	.....	....	1919-20	1924
Dist. of Columbia†	.....	....	.....	....	.....	....
Florida	1914-15	1918	1918-19	1922	.....	....
Georgia	.....	....	1918-19	1922	.....	....
Idaho	.....	....	1915-16	1919	.....	....
Illinois	1915-16	1919	1919-20	1923	1918-19	1923
Indiana	1910-11	1914	1911-12	1915	.....	....
Iowa	.....	....	1911-12	1915	1919-20	1924
Kansas	1910-11	1914	1918-19	1922	.....	....
Kentucky	1914-15	1918	1918-19	1922	.....	....
Louisiana	1915-16	1919	1918-19	1922	.....	....
Maine	1915-16	1919	1916-17	1920	.....	....
Maryland	1914-15	1918	1918-19	1922	.....	....
Massachusetts*	.....	....	.....	....	.....	....
Michigan	1914-15	1918	1918-19	1922	1917-18	1922
Minnesota	.....	....	1908-09	1912	.....	....
Mississippi	1915-16	1919	1919-20	1923	.....	....
Missouri*	.....	....	.....	....	.....	....
Montana	1914-15	1918	1918-19	1922	.....	....
Nebraska*	.....	....	.....	....	.....	....
Nevada*	.....	....	.....	....	.....	....
New Hampshire	1914-15	1918	1915-16	1919	.....	....
New Jersey	1915-16	1919	1917-18	1921	1911-12	1916
New Mexico	1914-15	1918	1918-19	1922	.....	....
New York	1917-18	1921	1918-19	1922	.....	....
North Carolina	1914-15	1918	1918-19	1922	.....	....
North Dakota	.....	....	1908-09	1912	1913-14	1918
Ohio*	.....	....	.....	....	.....	....
Oklahoma	1914-15	1918	1917-18	1921	.....	....
Oregon	.....	....	1920-21	1924	.....	....
Pennsylvania	1914-15	1918	.....	....	1909-10	1914
Rhode Island	1914-15	1918	1918-19	1922	1912-13	1917
South Carolina	.....	....	1918-19	1922	.....	....
South Dakota	1908-09	1912	1911-12	1915	1920-21	1925
Tennessee	1916-17	1920	1918-19	1922	.....	....
Texas	1914-15	1918	1922-23	1926	.....	....
Utah	1913-14	1917	1922-23	1926	1921-22	1926
Vermont	1913-14	1917	1918-19	1922	.....	....
Virginia	1914-15	1918	1917-18	1921	.....	....
Washington	1914-15	1918	1918-19	1922	1914-15	1919
West Virginia	1917-18	1921	1921-22	1925	.....	....
Wisconsin	.....	....	1915-16	1919	1922-23	1927
Wyoming†	.....	....	.....	....	.....	....

* Require a four-year high school education or its equivalent.

† No fixed standard.

1. The higher standards in Arkansas and Connecticut are evidently not enforced by the sectarian licensing boards of those states.

District of Columbia and in Wyoming no standards of preliminary education have been legally authorized or adopted.

In thirteen states an internship in a general hospital is required as an essential qualification for the license to practice medicine in those states. There are now more than enough hospitals seeking interns to provide places for all graduates each year, so that all state boards of medical licensing boards would be justified in requiring this additional qualification.

IMPROVEMENTS IN LICENSURE SINCE 1904

In table 14, the advances in standards of licensure are shown for all states since 1904. The most marked increase is in regard to the requirement of college work in forty-two states,

TABLE 14.—*Advances in State License Requirements in Twenty-Three Years*

Requirement or Provision	States Having Provision for			States Still Having No Provision for
	1904	1927	Increase	
Preliminary Education—				
Any requirement	20	47	27	3[1]
A standard four-year high school education or higher	10	47	37	3[1]
One year or more of college work	0	42	42	8[2]
Two years of college work as a minimum	0	39	39	11[3]
That all applicants be graduates of a medical college	36	49	13	1[4]
That all applicants undergo an examination for license	45	50	5	0
Hospital intern year required	0	12[5]	12	38
Full authority by board to refuse recognition to low-grade colleges	14	47	33	3[6]
Boards refusing to recognize low-grade colleges	5	49	44	1
Reciprocal relations with other states	27	46	19	4[6]
Single boards of medical examiners	36	45	9	5[7]

1. District of Columbia, Wyoming and (because of its eclectic board) Arkansas.
2. Delaware, District of Columbia, Missouri, Nebraska, Nevada, Ohio, Wyoming.
3. See table 16 and footnotes.
4. Colorado.
5. Arkansas (because of eclectic board) District of Columbia and Massachusetts.
6. Connecticut, Florida, Massachusetts, Rhode Island. To this list should be added the outlying territories of Canal Zone and the Philippine Islands, which have no provision for reciprocity. Porto Rico has recently established reciprocal relations with New York.
7. Multiple boards still remain in Arkansas (3), California (2), Connecticut (3), Louisiana (2) and Maryland (2).

referred to also in table 16. A still greater increase is shown in the number of states, now forty-nine, which are refusing to recognize low grade medical colleges. One other state, Arkansas, could be added to the two lists referred to, were it not for the Eclectic Board, which is still licensing graduates of inferior schools, particularly of the low grade institution in Kansas City.

The most glaring defect in medical licensure in this country is the failure in the majority of states to enforce fully the medical practice laws which have been enacted. This is due in some states to confusion resulting from the creation of different boards of medical examiners with varying standards, and in others, to a lack of sufficient funds to permit of enforcement. With a few exceptions, therefore, healers of all sorts can proceed with impunity to open offices and to carry on practice regardless of existing laws or licensing boards.

Although marked improvements have been made in state requirements for licensure, nevertheless there is still room for improvement, as indicated by the last column. The greatest needs are for a wider requirement of (*a*) the hospital intern year, thirty-eight states; (*b*) two years of premedical college work, eleven states, and (*c*) practical tests in the licensing examinations. The states in which the boards are making a really effective use of practical examinations are Illinois, Massachusetts, Minnesota, North Dakota, Ohio and South Dakota. That method is being followed to a certain extent in a few other states.

CONCLUSION

In the publication of these statistics, the endeavor has been to show the actual facts, a knowledge of which is always beneficial. Again acknowledgments are tendered to the officers of state licensing boards for their ready cooperation and the complete reports they have furnished. The information here published should be of service to the medical colleges and the state boards as well as to the public.

STATISTICS OF BASIC SCIENCE BOARDS

In 1915 a law in Tennessee was enacted providing for a board of preliminary examiners to examine the credentials of all applicants before they could be examined by the several separate licensing boards in that state. This law was amended in 1923 and again in 1925, and since has applied not only to physicians but also to osteopaths and chiropractors. The preliminary board was empowered to grant certificates to all candidates whose credentials were found acceptable but wherever necessary to examine the candidates in secondary or high school subjects.

In Connecticut in 1925, as a result of the fraudulent license scandal in that state, a law was passed creating a state board of healing arts, or basic science board, to examine all those applying for licenses to care for sick people regardless of the particular school of medicine they were intending to practice.

In the same year a similar board was created in Wisconsin. In 1927 more or less similar basic science boards were established in Minnesota, Nebraska and Washington. At present, therefore, five states now have basic science boards and one state a board of preliminary examiners. Such boards have been established only in states where not only is the licensing of those who seek authority to practice the healing art divided among several different boards but also where those boards represent different standards of professional training and efficiency. The object of these boards has been to provide a means of insuring that all candidates seeking authority to care for sick and injured people shall first possess a reasonable knowledge of the sciences fundamental to the healing art as demonstrated by an examination in those subjects before they can enter the professional examination. The tabulation of the five basic science boards shows that examinations are given in anatomy and physiology by all boards; bacteriology, chemistry and diagnosis by two boards each; hygiene by three boards, and pathology by four.

TABLE 1.—*Subjects of Examinations by Basic Science Boards*

State	Examinations Required in						
	Anatomy	Bacteriology	Chemistry	Diagnosis	Hygiene	Pathology	Physiology
Connecticut	+	..	..	+	..	+	+
Minnesota	+	+	..	..	+	+	+
Nebraska	+	+	+	..	+	..	+
Washington	+	..	+	..	+	+	+
Wisconsin	+	..	..	+	..	+	+

All these boards functioned during the calendar year 1927 and the results of the examinations are set forth in the accompanying tabulation.

TABLE 2.—*Applicants Examined by Basic Science Boards During 1927*

Name of Board	Year Enacted	Regular Physicians		Osteopaths		Chiropractors		Totals	Examined—Passed	Examined—Failed	Percentage of Failures
		P	F	P	F	P	F				
Connecticut	1925	67	4	7	2	0	1	81	74	7	8.6
Minnesota	1927	103	9	3	1	0	0	116	106	10	8.6
Nebraska	1927	7	0	0	0	0	0	7	7	0	0.0
Tennessee	1925	147	0	1	0	0	0	148	148	0	0.0
Washington	1927	26	4	0	2	0	0	32	26	6	18.7
Wisconsin	1925	76	9	3	1	1	0	90	80	10	13.5
		452		20		2		474			
Totals—Examined—Passed		426		14		1		.....	441		
Totals—Examined—Failed		26		6		1		.....	.....	33	
Percentage of Failures		5.8		30.0		50.0		.....	.....	.....	6.9

It will be seen that in all, 474 candidates were examined, of whom 441 passed and thirty-three, or 6.9 per cent, failed. These include 452 physicians, twenty osteopaths and two chiropractors, the failures in each instance, respectively, being physicians, twenty-six, or 5.8 per cent; osteopaths, six, or 30 per cent, and chiropractors, one, or 50 per cent. The largest number registered was 148 in Tennessee. The highest percentage of failures was 18.7 in Washington. The largest number of osteopaths examined was nine in Connecticut.

TABLE 3.—*Certificates Issued by Basic Science Boards in 1927 by Examination and by Reciprocity*

Name of Board	By Examination				By Reciprocity			Total Registered
	Physicians	Osteopaths	Chiropractors	Totals	Physicians	Osteopaths	Totals	
Connecticut	67	7	0	74	..	..	..	74
Minnesota	103	3	0	106	8	0	8	114
Nebraska	7	0	0	7	..	..	..	7
Tennessee	147	1	0	148	..	..	..	148
Washington	26	0	0	26	..	..	..	23
Wisconsin	76	3	1	80	18	1	19	99
Totals	426	14	1	441	26	1	27	468

In addition to the 441 applicants licensed by examination, twenty-seven were licensed under reciprocal provisions, including eight in Minnesota and nineteen in Wisconsin. Of these, twenty-six were physicians and one an osteopath. Of those registered by examination, however, 359 were physicians, seven osteopaths and one a chiropractor.

NATIONAL BOARD OF MEDICAL EXAMINERS

The National Board of Medical Examiners was organized in 1915. It now consists of twenty-one members, including the three Surgeon Generals of the Army, Navy and Public Health Service, and one other representative of each of those services, one representative of the state medical licensing boards and fourteen members appointed at large. The personnel of the board at present is as follows:

Rear Admiral Edward R. Stitt, Surgeon General, United States Navy, president; Major Gen. Merritte W. Ireland, Surgeon General, United States Army; Surg. Gen. Hugh. S. Cumming, United States Public Health Service; Com. Charles M. Oman, Col. Joseph F. Siler, Surg. George W. McCoy, Dr. Walter E. Garrey, Dr. Walter L. Bierring, Dr. David A. Strickler, Mr. John G. Bowman, Dr. Lewis A. Conner, Dr. J. M. T. Finney, Dr. W. S. Leathers, Dr. O. H. Perry Pepper, Dr. J. Whitridge Williams, Dr. Howard T. Karsner, Dr. A. S. Begg, Dr. Joseph B. DeLee, Dr. Otto Folin and Dr. Louis B. Wilson. The secretary is Dr. John S. Rodman and the managing director is Mr. E. S. Elwood.

Up to Dec. 31, 1921, eleven examinations had been held as follows:

Date of Examination	Where Held	Total Examined	Passed	Failed	Percentage Failed
Oct., 1916	Washington	10	5	5	50.0
June, 1917	Washington	12	9	3	33.3
Oct., 1917	Chicago	28	22	6	21.5
Jan., 1918	New York	20	18	2	10.0
Apr., 1918	Ft. Riley, Ft. Oglethorpe	23	18	5	26.1
Dec., 1918	Chicago, New York	16	15	1	6.3
June, 1919	Philadelphia	52	51	1	1.9
Feb., 1920	Chicago, St. Louis	48	36	12	25.0
May, 1920	Philadelphia	60	46	14	23.3
Feb., 1921	Rochester, Minn.	16	11	5	31.3
June, 1921	Boston	40	37	3	7.5
	Totals	325	268	57	14.4

Following the completion of each examination shown in the table, those who passed were granted the board's certificate, a total by Dec. 31, 1921, of 268.

NEW METHODS ADOPTED

Since 1922, however, the examinations have been divided in three parts, as follows: Part I, a written examination in

the six fundamental medical sciences: anatomy, including histology and embryology; physiology; physiologic chemistry; general pathology; bacteriology, including parasitology and immunology; materia medica, and pharmacology. Part II, a written examination in medicine, including pediatrics, neuropsychiatry and therapeutics; surgery, including applied anatomy, surgical pathology and surgical specialties; obstetrics and gynecology; public health, including hygiene and medical jurisprudence. Part III, a clinical and practical examination in each of the following four subjects: (*a*) clinical medicine, including medical pathology, medical anatomy, applied physiology, applied pharmacology, clinical chemistry, clinical microscopy and dermatology; (*b*) clinical surgery, including applied anatomy, surgical pathology, operative surgery and the surgical specialties of the diseases of the eye, ear, nose and throat; (*c*) obstetrics and gynecology; (*d*) public health, including sanitary bacteriology and the communicable diseases.

Parts I and II are written examinations held in any class A medical school, and part III is an entirely practical and clinical examination given by subsidiary boards in the following sixteen cities:

Baltimore	Denver	Nashville	Portland (Ore.)
Boston	Galveston	New Orleans	St. Louis
Chicago	Iowa City	New York	San Francisco
Cleveland	Minneapolis	Philadelphia	Washington

The fees are as follows: registration fee, $5; part I, $10; part II, $15; part III, $45.

EXAMINATIONS IN PART I

Three examinations in part I were held in 1927, as follows:

Date of Examination	Total Examined	Passed	Incomplete	Failed	Percentage Failed
February, 1927	95	79	4	12	12.6
June, 1927	404	265	90	49	12.1
September, 1927	203	108	65	30	14.8
Totals, 1927	702	452	159	91	13.0
1926	625	436	104	85	13.6
1925	608	400	50	158	26.0
1924	591	415	69	107	18.1
1923	507	349	77	81	16.2
1922	388	263	58	67	17.3
Totals	3,421	2,315	517	589	17.2

Altogether, 702 candidates were examined in 1927, as compared with 625 in 1926, 608 in 1925, 591 in 1924, 507 in 1923 and 388 in 1922. During the last six years, under the new plan, 3,421 candidates were examined, or more than ten times as many as were examined in the six years of the old plan—from 1916 to 1921. Of all those examined in part I during the last five years, 589, or 17.2 per cent, failed.

EXAMINATIONS IN PART II

Three examinations in part II were held in 1927, as follows:

Date of Examination	Total Examined	Passed	Incomplete	Failed	Percentage Failed
February, 1927	85	76	1	8	9.4
June, 1927	215	189	..	26	12.1
September, 1927	61	49	..	12	19.7
Totals 1927	361	314	1	46	12.7
1926	370	334	1	46	9.5
1925	342	309	...	33	9.6
1924	267	227	...	40	14.9
1923	192	170	2	20	10.4
1922	109	90	...	19	17.4
Totals	1,641	1,444	4	193	11.8

During 1927, 361 candidates were examined in part II, as compared with 370 in 1926, 342 in 1925, 267 in 1924, 192 in 1923, and 109 in 1922. Altogether, 1,641 candidates were examined during the six years, of whom 193, or 11.8 per cent, failed.

EXAMINATIONS IN PART III

The examinations in part III in 1927, which were entirely clinical and practical, were held in several of sixteen subsidiary centers in different parts of the country (named in the preceding column). The results of the examinations were as follows:

Examinations of	Total Examined	Passed	Failed	Percentage Failed
1922	28	28	..	0.0
1923	76	75	1	1.3
1924	120	114	6	5.0
1925	217	206	11	4.1
1926	255	243	12	4.7
1927	294	272	22	7.5
Totals	990	938	52	5.2

In 1927, 294 candidates were examined in part III, as compared with 255 in 1926, 217 in 1925, 120 in 1924, 76 in 1923, and 28 in 1922. During the six years, therefore, 990 candidates were given the final practical examination and, of these, fifty-two, or 5.2 per cent, failed.

Total Individuals Examined During Five Years

Year	Parts I, II and III, Excluding Duplications				
	Examined	Passed	Incomplete	Failed	Percentage Failed
1922	525	381	58	86	16.4
1923	775	594	79	102	13.4
1924	978	756	69	153	15.6
1925	1,167	915	50	202	17.3
1926	1,161	930	105	126	10.9
1927	1,248	947	142	159	12.7
Totals	5,854	4,523	503	828	14.1

Omitting duplicates, there were 1,248 individuals who took the National Board's examinations during 1927, as compared with 1,161 in 1926, 1,167 in 1925, 978 in 1924, 775 in 1923, and 525 in 1922. The percentages of failures was 12.7. For the five years, altogether 5,854 individual examinations were held; of these 828, or 14.1 per cent, were failures.

RECOGNITION OF THE NATIONAL BOARD'S CERTIFICATES

Holders of certificates from the National Board of Medical Examiners are registered without further examination in thirty-nine states, the Canal Zone, Porto Rico and Hawaii as follows:

Alabama	Iowa	New Hampshire	Rhode Island
Arizona	Kentucky	New Jersey	South Carolina
Canal Zone	Maine	New York	South Dakota
Colorado	Maryland	North Carolina	Tennessee
Connecticut	Massachusetts	North Dakota	Utah
Delaware	Minnesota	Ohio	Vermont
Georgia	Mississippi	Oklahoma	Virginia
Hawaii	Missouri	Oregon	Washington
Idaho	Nebraska	Pennsylvania	Wyoming
Illinois	Nevada	Porto Rico	

Diplomates licensed without further examination in the United States increased in eleven years from 2 in 1917 to 167 in 1927, 495 having been so licensed since the National Board was created.

IN GENERAL

Of the failures, it is noted that during the last five years 17.2 per cent of the candidates failed in part I, 11.8 per cent of the candidates failed in part II, and 7.5 per cent of the candidates failed in part III. Altogether 5,854 candidates participated in the National Board's examinations during the six years since Jan. 1, 1922, and of these 828, or 14.1 per cent, failed.

Of those who took examinations in parts I and II during the six years, 503 are listed as incomplete. These are candidates who took examinations in all but one of the subjects included in parts I and II and are listed as incomplete until they have taken an examination also in the remaining subject. In the statistics, however, although mentioned separately, they are counted as successes and not failures.

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SATURDAY, APRIL 14, 1928

STATISTICS OF STATE BOARD EXAMINATIONS

THE JOURNAL publishes this week, for the twenty-fifth consecutive year, statistics based on examinations held by the state medical licensing boards during the last calendar year. That the statistics are complete and reliable is due to the ready cooperation received from the secretaries of the licensing boards, to whom sincere appreciation is extended.

LICENSURE IMPROVEMENTS IN TWENTY-FIVE YEARS

Many difficulties in licensure with which physicians had to contend twenty-five years ago have largely been removed. Formerly, if for any reason a physician desired to move to another state, he had in most instances to pass another examination, the severity increasing with the length of time he had been in practice. Since 1903, reciprocal relations have been widely extended among states until at present forty-five states and the territory of Alaska have established relations with ten or more other states. Fourteen states, also, will now register a properly qualified physician on presentation of his credentials, which include a license from another state, irrespective of whether the other state will or will not grant similar privileges. In brief, in these states, the physician is no longer penalized merely because some licensing board fails to "reciprocate."

The physician's freedom in licensure has been further advanced in the wider acceptance of credentials granted by the National Board of Medical Examiners by thirty-nine state and territorial licensing boards. Instead of only two such certificates which were accepted for registration in 1917, last year 167 physicians holding such certificates were licensed without further examination. The benefit to physicians of these more reasonable rules of licensing boards is shown also by the increase in the number of physicians registered on the basis of credentials, or reciprocity, from 989 in 1907 to 2,115 in 1927. On the other hand, the number of physicians who had been in practice five years or longer who were required to be examined on removal to other states decreased from 5,962 in 1907 to only 514 in 1927. The medical profession, therefore, is now far more free from unreasonable restrictions in medical licensure than it was in 1907. The time is not distant, it is hoped, when any properly qualified physician who for good reasons desires to transfer his practice to another state may do so without undue difficulty.

VERIFICATION OF CREDENTIALS

Another important development resulting from the collection of state board statistics has been the filing of official data in the American Medical Association's biographic index showing whether and where all physicians were licensed, if at all. By this process the licensing boards' reports are carefully checked with the alumni lists of the medical schools, thus calling attention at once to any person who has obtained a license without having first obtained the essential medical training. In recent years the verification process has been extended also to foreign candidates through direct correspondence with the medical schools from which they claim graduation. This complete check on all seeking licenses to practice medicine makes it increasingly difficult for a diploma mill to carry on its business in this country. The only recent exceptions have been due to the existence of certain sectarian licensing boards; and even in these cases the diploma mills have been promptly exposed, chiefly through the publication of state board statistics.

A BARRIER AGAINST FRAUDULENT DIPLOMAS

The cooperation of licensing boards is also shown in table C, published this week, which has established an efficient barrier between inferior medical schools and the public. A glance at this table will show why the Missouri mills, exposed a few years ago, had to send the major part of their product half way across the continent—to Connecticut—before an open door to licensure could be found. Through the persistent activity of its present health commissioner, Connecticut has undergone a thorough house cleaning and established ample safeguards. A second loophole, in Florida, has also been closed through the vigorous prosecution of Dr. George A. Munch, who was secretary of the eclectic board before the single composite board was created, even though his conviction has been recently reversed by a higher court. At the beginning of the present year a new law in Colorado has strengthened the barriers in that state against unqualified doctors, leaving Arkansas as the only state wherein the unqualified, poorly trained physicians still seem to have access. But even Arkansas can be redeemed if the diploma mills of St. Louis and Kansas City can be permanently closed. The two newly chartered institutions which so promptly took the place of the two diploma mills whose charters were revoked are so evidently conducted

by the same influences as their predecessors that state boards are justified in refusing them any recognition whatever.

POWER OF PUBLICITY

Through the publicity of such statistics as appear this week, a better understanding is possible of the problems in medical licensure and the measures by which they can be solved. In the United States the final solution of problems related to the practice of medicine depends on the education of the public, perhaps, more than in any other country. When people generally realize the dangers from illegal and incompetent practitioners, they will be inclined to favor better medical practice laws and the appointment of competent boards to enforce them.

THE PASSING OF THE PESSARY

In medicine, as in every other progressive science, improvement is effected through seeking new knowledge and improving the application of present knowledge. The pessary, in all its shapes and forms, was a most important instrument in the armamentarium of every gynecologist and most general practitioners twenty years ago. No doubt it was the best instrument for treatment of certain conditions, in the light of the state of surgical imperfection existing at that time. The pessary was used principally in the treatment of retrodisplacements and procidentia of the uterus, although it was used also in the treatment of anterior malposition of the uterus and even in dysmenorrhea and sterility. The conditions for the successful use of the pessary presupposed that the perineum was firm enough to support it, which is an unusual condition when the pessary is needed, and that the pessary should not exert pressure, which eliminated most of the cases of retroflexion. It was recognized that improperly fitted pessaries might be associated with leukorrhea or might aggravate an already existing discharge. In some cases, especially when stem pessaries were used, salpingitis and pelvic inflammation were excited. These risks were considered justifiable, although it was necessary to keep the patient who was wearing a pessary under constant observation. The pessary had to be removed, cleaned and replaced every four or six weeks. Even then pessary treatment was not usually regarded as a curative measure but as only palliative. True, in some cases, when pessaries were used for a sufficient period, permanent corrections of the conditions seemed to result. Usually, however, after the removal of the pessary the condition formerly present returned, although not necessarily the symptoms. Therein lay a part of its value. Today the uses of the pessary are more limited. It is no longer regarded as of any value in dysmenorrhea and sterility. As dissemination of surgical knowledge and increase in surgical ability has become more general, its use in retrodisplacements and procidentia has lessened and surgical treatment seems to have supplanted it.

Medical literature of recent years shows scant reference to treatment with the pessary and only a few scattered articles advocating its use. The indications for its use apparently include occasional cases of retrodisplacement of the uterus after pregnancy, and a few instances in which operation for cystocele, prolapse of the uterus or retrodisplacements which produce symptoms, is contraindicated. When reliable surgical aid is not available, a malposition of the uterus causing untoward symptoms is sometimes treated with a pessary. However, an excellent reason for the decline in the frequency of the use of the pessary is the fact that it has been found unnecessary to treat a uterus in malposition unless undesirable symptoms definitely related to the malposition are present.

With its perfection of technic and aseptic procedures, surgery offers the quickest and the surest form of treatment of malpositions of the uterus attended by disabling symptoms. Few of the newer generation of medical men have ever used a pessary; many of the older generation have discarded it entirely. Apparently some still cling to it. Although an occasional indication may be found for its use, the day of the pessary seems to be passing.

CEREBRAL CONCUSSION

The expression "concussion of the brain" is one that is employed almost as frequently by the layman as by the physician. The phenomenon is included in the "commotio cerebri" that has repeatedly been described by the old masters of medicine. It is questionable, however, whether the implications of cerebral concussion are clearly understood as a rule by those who use the term. Indeed, a review of the subject will promptly bring to light not a little confusion as to what is involved thereby. Originally the word concussion was a purely clinical term. The effort to provide a pathologic interpretation presently led to the inclusion of microscopic changes and petechial hemorrhages in the assumptions that were made. Concussion and contusion were thus joined in the etiologic implications, the assumed structural injury and circulatory disorganization being made responsible for the actual manifestations.

Immediate unconsciousness is generally accepted as a constant symptom in concussion. The further manifestations are generalized. Recovery is often complete and often almost immediate. Lesions of the nervous tissues are not prone to such prompt repair; hence it might be expected that they would occasion symptoms prolonged over a considerable period. A recent writer has cited the experience of the boxing ring in illustration. There concussions are caused by what is generally known as a "knockout blow." As a result of a sudden blow, usually on the chin, there occurs a

sudden loss of consciousness, with flaccid paralysis. The fighter has ten seconds in which to recover sufficiently to get on his feet and renew the fight, when he may go on to victory. It is inconceivable that such cases are accompanied by any gross lesion. Unless confined within narrow limits to the silent areas, which even then would not be sufficient to cause unconsciousness, a gross lesion would give symptoms prolonged over a considerable period.

These considerations have raised the question as to whether there cannot be a concussion based on truly physiologic conceptions, or what Miller [1] has defined as a group of symptoms which are the result of a temporary inhibition of cortical function, with or without stimulation or inhibition of one or more of the medullary centers, but which are not accompanied by pathologic lesions. Miller has studied the problem experimentally at the Department of Physiology and Experimental Medicine in McGill University, Montreal. This has involved the differentiation of concussion from lesions involving definite histologic and anatomic changes. It is often stated that cerebral anemia is the cause of cerebral concussion. The experimental evidence of the influence of impacts on the cortex and medulla sufficient to produce generalized, paralytic consequences shows that the effects of concussion are immediate, while the paralyzing effects of cerebral anemia are not immediate but develop after five or more seconds. Thus it appears that concussion is the direct result of a sudden mechanical force on the central nervous tissue.

Miller has clearly demonstrated that concussion, which is immediate in onset and tends to spontaneous recovery without sequelae, must be sharply differentiated from all gross lesions, such as contusion and multiple petechial hemorrhages. The symptoms are mainly referable to the cortex, to the medullary centers and to a certain degree to the proprioceptor system, especially the labyrinth. It is presumably the stimulation of the labyrinth that results in the vertigo following the transient unconsciousness. The cortical symptom is the immediate, generalized paralysis of the psychic areas, while the medullary symptom depends on the severity of the blow, and is either stimulation or inhibition of the bulbar centers, which causes changes in the blood pressure, pulse rate and respiratory rhythm. According to Miller the medullary effects, when they occur, are those of stimulation or paralysis of the respiratory, vagus and vasomotor centers. The respiratory center is the first to be paralyzed. As this is usually a temporary paralysis, artificial respiration may save life.

Death from concussion is immediate and is due to respiratory paralysis with consequent asphyxia. How the direct mechanical action on the cells causes a disturbance of cell equilibrium and temporary loss of function remains to be elucidated. It is easier to speak of the possibilities of disturbances in physicochemical and gravitational equilibrium in cell function than to define these in any convincing way. But the distinction between cerebral concussion and contusion has become clearer through Miller's efforts. As he summarizes his investigations, concussion lends itself to an etiologic explanation on purely mechanical grounds. Cerebral anemia is not involved. Contusions, though also mechanically produced, represent a more advanced lesion in that actual cell death is caused. Thus concussion is an immediate, transient loss of consciousness with or without cell death, caused by the direct action of mechanical violence on the cells of the brain, and with no direct causative relations to cerebral anemia. It is distinct and separate from contusion or hemorrhages, whether minute or large and diffuse.

1. Miller, G. G.: Cerebral Concussion, Arch. Surg. **14**: 891 (April) 1927.

Current Comment

SUCCESSORS TO DIPLOMA MILLS

Two medical schools, the Kansas City College of Medicine and Surgery and the St. Louis College of Physicians and Surgeons, were involved in the Missouri diploma-mill scandal of 1923-1925. As a consequence their charters were revoked, June 23, 1926, and May 23, 1927, respectively. A successor to the former was chartered, July 29, 1926, under the name of the American Medical University. It occupies the same site and is apparently being operated by the same interests as its predecessor. Presumably in anticipation of similar action the St. Louis College of Physicians and Surgeons obtained, April 8, 1926, a charter for a new institution bearing the name of the Missouri College of Medicine and Science. This charter was obtained thirteen months before that of the St. Louis College of Physicians and Surgeons was actually revoked. The announcement published by the St. Louis College of Physicians and Surgeons for the college year 1926-1927 bore not only the name of the St. Louis College of Physicians and Surgeons but also that of the Missouri College of Medicine and Science. The appearance of these two names on the same announcement makes it fairly evident that the institution convicted of being a diploma-mill and the newly chartered institution were conducted by the same persons. The relations of both the new institutions with their diploma-mill predecessors justify the belief that they are "birds of a feather." Four "graduates" of the American Medical University and ten holding diplomas from the Missouri College of Medicine and Science were admitted to examinations in Colorado and eight were granted licenses. This action, however, was the last life throb of the old Colorado medical practice law, which has now been replaced by one granting the board authority to refuse recognition to the output of such institutions. Congratulations are due to the people of Colorado. Again we commiserate with Missouri!

INCOMPETENT OSTEOPATHIC HEALERS

A new and increasing menace now appears from outside the medical profession. At first the osteopaths claimed that they did not use drugs or perform surgical operations; that they were "not physicians," were "not practicing medicine," and, therefore, "should not be subject to the laws and higher qualifications required of physicians." In recent years they have radically reversed their position, are asking for permits to use narcotics—the most dangerous of drugs—and are demanding equal privileges with physicians, although still unable or unwilling to show possession of equally high standards of educational and professional training. Under such claims, osteopaths are now being licensed as physicians by the medical boards of Colorado, Massachusetts and Texas. This was true also in California until a separate board of osteopaths was created to license them as physicians under lower qualifications than are applied to graduates of medical schools. That osteopaths have obtained equal privileges as physicians in certain states, however, does not guarantee an equally efficient knowledge or skill. As a matter of fact, no osteopathic college has entrance requirements, teachers, equipment or hospital facilities equal to those of class A medical schools, nor are osteopaths given equally efficient instruction either in the differential diagnosis of diseases or in the many valuable methods of treating sick and injured persons. Nevertheless, last year 139 osteopaths were licensed in four states and given the same privileges as physicians.

BASIC SCIENCE BOARDS AND ENFORCEMENT

With the other statistics published this week appears the first published report of examinations by basic science boards.[1] Such boards have now been established in five states in which the licensing of practitioners of the healing art was divided among several separate boards which also have to do with varying standards of qualification. In such states basic science boards appear to have a logical place, since all candidates for licensure are required to appear before these boards and prove their possession of an adequate knowledge of the basic sciences before they are permitted to enter any professional examination. States which have a single medical board to license all candidates have no need of basic science boards. The reports regarding applicants examined by basic science boards during 1927 show some interesting data. Of the 474 candidates examined, 452, or 95 per cent, were physicians, leaving only twenty-two candidates for the testing of whom these boards were supposedly established. Of the twenty-two irregular practitioners examined, only seven failed. It is a question, however, whether all irregular practitioners entering these states actually appeared before basic science boards. No doubt some of these practitioners have opened offices, irrespective of basic science or any other licensing boards. The establishing of basic science boards, therefore, should not detract attention from the first essential in medical licensure; namely, a vigorous enforcement of medical practice laws. Enforcement is the most essential point, since laws in most states are already adequate. Any law is useless unless provision is made for vigorous enforcement.

1. See page 1213.

Association News

ANNUAL CONGRESS ON MEDICAL EDUCATION, MEDICAL LICENSURE AND HOSPITALS

Twenty-Fourth Annual Meeting, held in Chicago, Feb. 6, 7 and 8, 1928

(Concluded from page 1126)

FEDERATION OF STATE MEDICAL BOARDS

Annual Registration as an Enforcement Procedure

DR. HENRY ALBERT, Des Moines, Iowa: Every state in the Union has made provision for the licensing of its practitioners of medicine. These licensing acts are designed to protect the public from unqualified and unscrupulous persons who represent themselves as physicians. Obviously a medical practice act is of little value unless it is adequately enforced. The existence, in practically every state in the Union, of a considerable number of unlicensed, irregular or unscrupulous physicians is ample proof of the fact that our licensing laws are not being adequately enforced. The requiring of an annual registration of physicians is an attempt to enforce the medical practice act more adequately than is otherwise possible.

The annual registration of all physicians is now required in fourteen states; namely, Alabama, California, Connecticut, Delaware, Florida, Idaho, Iowa, Louisiana, Minnesota, Nebraska, New York, Oregon, Pennsylvania and Utah. Nineteen of those where annual registration is not now required volunteered the information that they approved the idea but had not yet been able to secure the necessary legislation. It appears, therefore, that the executive officer or board of medical examiners of at least thirty-three, a considerable majority, of the states are in favor of the annual registration of physicians.

Perhaps the most effective results are those reported from New York, where, during the recently completed first year of the administration of their law, probably more than 1,000 of the estimated 4,000 unlicensed practitioners, quacks and charlatans have either discontinued their practice or been driven from the state.

The annual registration of physicians aids in enforcing the medical practice acts in the following ways: 1. Maintaining an accurate list of all licensed physicians. 2. Eliminating all unlicensed practitioners practically all of whom are charlatans. 3. Preventing the use of licenses of deceased physicians. 4. Disciplining licensed physicians for first or occasional breaches of the medical act or where the conduct is reprehensibly close to the line of illegality, by intimating that the board may refuse to continue the license by denying registration unless they will promise and agree in writing to be guiltless hereafter of the improper conduct or illegal practice concerning which information has been filed, or of any other practices for which, according to law, a certificate to practice medicine has been revoked.

There are, of course, violations of the medical practice act that require more drastic action. It requires funds as a rule to restrain or punish a person who is practicing without a license. The raising of funds is accordingly another function of the annual registration of physicians. Such is usually provided by the fees required for the annual registration or annual renewal of licenses. These fees vary from one to five dollars.

To enforce a medical practice act properly it is necessary to have special enforcement agents who can secure the proper evidence and either lead or assist in the prosecution. In no state, so far as I know, was the act requiring the annual registration of physicians passed with the idea of providing revenue for the state. The theory is that the revenue shall be used to administer the law and enforce the provisions of

the act. I would strongly urge on all who are contemplating legislation providing for the annual registration of physicians that they see to it that the intention of the law with reference to the use of the funds received will be made clear and that provision be made either in the law or by budgetary arrangement to have all the funds secured from the annual registration used for the administration and enforcement of the medical practice act.

DISCUSSION

DR. I. D. METZGER, Pittsburgh: I represent a state that was one of the first to enact annual registration. Pennsylvania was forced to do it because of several factors which I think you should know about. In the first place, licensure in the state of Pennsylvania was granted, up until 1911, after recommendations from three separate boards. A council was appointed to issue the license on the recommendation from each of these boards. Previous to 1911 each licensee was required to register his license in the county in which he desired to practice. The act of 1911 consolidated the three boards into a single board. The county reigstration was eliminated in the same act, making a central registration in Harrisburg the only essential. This central registration made it very difficult for any individual citizen to determine who was licensed and who was not licensed in the various parts of the state. The effect of it all was that in Pennsylvania we were not quite sure, even among medical men, as to who was licensed and who was not licensed. The registration act, however, made possible the spotting of the unlicensed practitioner and the confirmation of the licensed one. To our amazement we found that a dozen or more physicians of the state were practicing and had been practicing for many years who were not licensed to practice. The registration, as I say, spotted these medical illegal practitioners. I may say, as a matter of information, that those medical men who have been practicing for long were asked to cease practicing medicine immediately when their plight was discovered, and told to appear before the state board for a practical examination. Our law permits a so-called bedside examination to such as have been in practice ten or more years. We generally found them to be quite fair in their training, and, with their experience, we gradually considered them worthy of licensure even though they had failed years before. Regarding the limited practitioners, those who practice a branch or branches of medicine, no one in the state had any idea of how many there were that were unlicensed. The uncertainty as to their legal status resulted in indifference. Registration made possible the determination as to who was licensed and who was not. We have them fairly well tabulated now. As the medical act now stands, it provides for a board consisting of physicians entirely. This board is given the right to examine all those that pretend to practice a branch or branches of medicine or surgery as well as those regularly prepared to practice in all fields of medicine. The board established rules and regulations for their control. Decisions by the superior and supreme courts in several cases were handed down which stated that it was the right of the board to establish such rules and regulations for qualification and examinations of these people. However, the chiropractors think they are not amenable to the law and as a result they have chosen to evade the law by continuing to practice. We can arrest them here and there but we haven't been able to pick very many. What few we have prosecuted have been brought to justice largely by means of the funds that have come to us through the registration act. We made this mistake that you must not make if you get a similar act. The board, in formulating the law, wrote into the act that the fee should be $2. The medical conference said, "We will go with you if you will agree to make the fee $1." We agreed. Had the fee remained at $2, it would have supplied sufficient money to prosecute more energetically. We had written into the act a penal clause so that its provisions had to be complied with by each licensed person in the state, without any equivocation. The fine attached to it is $10 for the first violation and on summary conviction; subsequent convictions involve jail sentences. It has not been necessary to fine any one. I think the penal clause is a very essential feature which must not be overlooked. Another factor is that it annually confirms the physician's standing. I don't quite see how you can refuse registration to a physician whose license has not been revoked. Many of our problems would have been prevented years ago if there had been stricter laws relative to the chartering of schools. Each board might here find a fruitful field for investigation.

DR. T. J. CROWE, Dallas, Texas: At the next session of the legislature, Texas will attempt to adopt a law or an amendment to our law providing for annual registration, and with that object in view we have made some study of those states that have already put that provision into effect. In making up the draft of the bill providing for annual registration, the question arose as to what disposition shall be made of the funds collected. The solution of that problem, as we see it at the present time, may be stated as follows: When the secretary-treasurer's semiannual report shows a balance of cash in his hands or in the bank, after all expenses of the board have been paid, the balance of cash on hand shall be deposited in a fund to be known as the "contingent fund of the state board of medical examiners," which fund may be used by the board when cash advances for any purpose are deemed necessary in carrying out the provision of this law. In other words, if the state board and the Texas Medical Association desired to send men out in a certain section of the state to educate the public or provide for enforcement, they would have funds to draw upon. Annual registration, in our opinion, is the salvation of medicine so far as enforcement is concerned, since only a few states provide the funds necessary to prosecute. The last three years the Texas Medical Association has provided the funds for us and that has caused us no little trouble, for the reason that when we go into the court house the defendant's attorney wants to know who is paying the man who investigated. Immediately they impress the jury with the idea that it is persecution and not prosecution.

DR. WILLIAM JEPSON, Sioux City, Iowa: I call your attention to an adage in law to the effect that possession is nine points in law, and at the termination of the license at the end of each year one comes into possession of it for the next year. If we do not grant it graciously a person's only recourse is that of going into court and forcing us to do so. Those practicing illegal medicine will not be anxious to have the causes of refusal of their licensure aired. That is what would happen in the event they went into court.

DR. HAROLD RYPINS, Albany, N. Y.: The gentlemen have asked for some constructive criticism of the basic science law. I should say from our experience in New York, and from what I have heard from other states where proper annual registration law is enforced, that is the most constructive criticism of the other type of law. We have driven out 1,000 or more quacks from New York State in a year, and probably would drive more out at the same rate. Our trouble is not in driving them out but in driving them out so quietly and cautiously that it will not start a revolution that will come back to us in the legislature. We are fully satisfied that we have converted the prosecution of illegal quacks from an amateur to a professional basis, where we think it belongs.

Budget Problem of Medical Examining Boards

DR. ROY B. HARRISON, New Orleans: The financial side of a state board of medical examiners is an important one for many reasons, and it is an impossibility for a board to function properly without the necessary funds. The present-day state board of medical examiners has many responsibilities besides merely the licensing of the legitimate physician. Several years ago there were many less cults and other medical law violators in existence but, unfortunately, these are on the increase to such an extent that it now taxes a board to keep them in half-way check. The function of a board is not only to license a physician but also to help protect him after he has been licensed to practice medicine, in addition to protecting the public. The medical colleges of the United States, as a rule, graduate men and women who can easily pass the average examining board. The American Medical Association classification of medical colleges has almost completely removed the low grade college,

so that the licensing of the physician is a fairly easy matter and it does not entail any large expense to the board.

The handling of medical law violators, on the other hand, is a serious, hard and expensive matter. Several years ago, when the Louisiana State Board of Medical Examiners did not have the annual renewal feature as a part of the medical practice act, the funds were very limited and the board could function only in a small way. In fact, there were times when the board was without funds to meet the routine expenses, even though strictest economy was practiced. The salary of the secretary was almost nothing, his office force consisted of a part-time assistant, and the board met only twice a year.

In discussing a sufficient income that a board should have, I have purposely omitted figures, as one board will require more or less than another, according to the size of the state, amount of violators, and so on. It seems, as shown by a recent questionnaire that I sent, that many of our boards are handicapped by lack of sufficient funds, and I believe that if more boards had suitable incomes they would be in a better position to prosecute medical law violators and keep medical education standards higher.

Budget Problem of Medical Examining and Licensing Boards

Dr. Charles B. Pinkham, Sacramento, Calif.: The budget problem is indeed a problem that must be studied by respective boards, based on the conditions existing in each state. The key-note in the successful conduct of an efficient administration is income. In a state where the licensing board forms a part of the program in a general administrative body such as the state board of health or similar department, we surmise that the medical board is not given the same serious financial support that is given when such a board functions as an independent administrative body.

Income depends on: (*a*) the amount of the application or other fees charged; (*b*) the volume of business transacted. Many boards charge too small an application fee for the volume of business and therefore the income is disproportionate to the service rendered. Annual registration, besides proving of inestimable benefit in the matter of ready reference records, also provides a progressively increasing income; however, the financial benefit may be annulled by failure to enforce, which will soon result in the sinking of the good ship "Finance" with its load of inefficiency. Additional income may be provided by establishing fees for certain service. Every medical practice act should have a provision establishing a board of medical examiners' contingent fund, and any provision requiring that the funds of the board should annually revert to the state treasurer should be stricken from the law. Budget has been defined as "a complete documentary expression of projected governmental activities as to costs, to the end that sufficient revenue may be raised to provide and allot funds for various purposes. It has been said that much confusion has resulted from attempts to interpret the financial transactions of a governmental unit of organization. Commercial undertakings are for the earning of profit, whereas governmental undertakings are solely for the performance of service. As no capital is invested, nor the earning of a profit involved, the elimination of these two reduces governmental accounting to the mere recording of facts relative to the funding and the cost of governmental functions.

Budget Problems

Dr. T. J. Crowe, Dallas, Texas: Some members of the boards are contemplating amending their laws, and it might be worth while considering the definition of your laws with care if at any time you should rewrite the present statute. I think this is important, whereas I have had little experience with budgets.

The mind of the average juror is fixed with the idea of drugs in the practice of medicine. While our law defines the practice of medicine pretty clearly, as far as the practitioner is concerned, it does not convey the idea to the layman or juror. This is the definition: All persons, except those hereinafter specifically mentioned as exempt, who hold themselves out by profession, by advertisement of a remedy or remedies, or otherwise as being able by any method whatsoever to treat, prescribe for, operate or manipulate, for the relief or cure of, or to diagnose any human disease, pain, injury, deformity, or any physical or mental condition and charge therefor directly or indirectly by the acceptance of money, gift, or other compensation for such service or remedial agent, shall be regarded as practicing medicine within the meaning of this act. The purpose of that is to get the man who has the big sign in his window advertising a cure for kidney disease and liver disease. It is also to get away from the idea in the minds of the jurors or laymen that he is not practicing medicine when the complainant says "He cracked my back and he cracked my neck." There is one serious objection on our part to the submission of a new definition. Our present definition has been sustained by the supreme court. It might be dangerous to try to go back to them with another that might not be sustained. Therefore, it isn't at all improbable that the definition may not be adopted. Another opposition that we have to deal with is registration. Our law requires that a man shall register in the county of his residence. As a consequence we have men shifting about from county to county doing an itinerant practice.

Medical News

(Physicians will confer a favor by sending for this department items of news of more or less general interest: such as relate to society activities, new hospitals, education, public health, etc.)

ARIZONA

Study of Solar Radiation.—At a recent meeting of the board of directors of the Desert Sanatorium of Southern Arizona, Tucson, $250,000 was voted to establish an institute of research to study the nature of solar radiations and their effects on living matter. The director will be Dr. Bernard L. Wyatt; the medical director, Dr. Roland A. Davison, and the research consultant, Daniel T. MacDougal, L.L.D.

ARKANSAS

Society News.—Dr. J. William Scales gave a dinner to the Jefferson County Medical Society, Pine Bluff, February 29, to celebrate his "fifteenth" birthday.——The Benton County Medical Society, Siloam Springs, was addressed, February 9, by Dr. Samuel A. Grantham, Joplin, Mo., on "Bone Surgery."——The Lonoke County Medical Society has adopted the plan of having a general discussion of a previously announced subject, and this has increased the attendance. The subject at the February meeting was "Syphilis," and at the March meeting, "Diarrheas and Dysentery."——The Mississippi County Medical Society at its February meeting in Blytheville held a quiz on the subject of "Acute Diseases of the Chest." Dr. Wheeler S. McCall presided.——The Sebastian County Medical Society was addressed, February 14, by Dr. Walter G. Eberle, Fort Scott, on "Physical Examination of the Apparently Healthy Individual." A demonstration was given. The society has adopted the plan of having at each meeting a fifteen minute discussion on some point in ethics. "Advertising in Medicine" was the subject at this meeting.

CALIFORNIA

Plague Infected Ground Squirrels.—Six ground squirrels, shot in the outskirts of the city of Santa Cruz, have proved positive for plague, according to a report to the U. S. Public Health Service. The squirrels were shot in the immediate vicinity of the place where the boy who contracted plague was engaged in trapping squirrels (The Journal, April 7, p. 1126). No rats suspected of being infected with plague have been caught in Santa Cruz.

Dr. Wanless Has Been Knighted.—King George V of England has conferred the honor of knighthood on Dr. William James Wanless of the Miraj Hospital, Miraj, India, in recognition of his service to that country. According to the *Presbyterian World News,* Dr. Wanless went to India in 1889 where he rented a small building in the bazaar for a dispensary; in two years, he had cared for about 8,000 patients. From this dispensary has developed the Miraj Hospital, an institution of more than twenty buildings, and

said to be the only mission school in India which trains men in medicine. The hospital has been self-supporting for years. Dr. Wanless is a graduate of the medical department of New York University; he is retiring from service in India, and expects to make his home at Glendale, Calif. Dr. Charles E. Vail, a graduate of Columbia, will succeed him at Miraj.

Society News.—A public health institute will be conducted in San Francisco, May 28-June 8, by Dr. Haven Emerson, New York, under the auspices of the Northern California Public Health Association. The evening sessions will be open to the general public. Other well known speakers will take part in the program.——Special cancer clinics will be held at the University of California Hospital and Stanford dispensaries, San Francisco, April 16-21, at 11 a. m., and at private hospitals in cooperation with the American Society for the Control of Cancer.——Eighty-four physicians played against ninety-four dentists in the annual tournament between the Northern California Medical Golf Association and the Northern California Dental Golf Association, March 15, at the California Golf and Country Club, San Francisco, the dentists winning (for the fifth time) by a score of 77½ to 41. The state medical society is planning a golf tournament at the Del Paso Country Club, May 1.

Perfect Teeth Among University Students.—Only ten students of the University of California, among 3,000 examined during the last year at the university infirmary, have what might be classified as perfect teeth, according to a survey made by J. F. Cathcart, D.D.S., under the direction of Prof. Forrest H. Orton of the college of dentistry. During examinations of all entering students and during other examinations, fifty cases were selected in which the teeth were perfect as far as general development and cavities were concerned. Casts were made of these and they were studied for perfection as to occlusion and general placement in the jaw. Of the fifty only ten proved to be good in all respects. Dr. Cathcart is now tracing the life histories of the students whose teeth are above average, and his work thus far indicates that none of them in this class were bottle-fed babies. They were breast-fed for at least seven months. He believes that breast feeding is valuable in the development of the jaws and teeth because of the physical effort required of the child.

COLORADO

Society News.—Dr. Hiram W. Orr, Lincoln, Neb., addressed the Denver County Medical Society, March 6, on osteomyelitis.——At the February meeting of the Arkansas Valley Medical Association, Pueblo, Dr. Robert M. Fulwilder of the veterans' bureau hospital, Fort Lyon, read a paper on "Barometric Pressure and Its Influence on Tuberculosis," and Dr. Frederic A. Forney of the Modern Woodmen Sanatorium, "Bone Lesions, Tuberculous and Nontuberculous with Roentgen-Ray Demonstration."——At the February meeting of the El Paso County Medical Society, Dr. Arthur Steindler, professor of orthopedic surgery, State University of Iowa College of Medicine, Iowa City, gave an orthopedic clinic at the Union Printers' Home; Drs. Leo A. Conway, Colorado Springs, read a paper on "Hay-Fever"; Bernard E. McGovern, Colorado Springs, "Cirrhosis of the Liver," and Charles O. Giese and Gerald B. Webb, both of Colorado Springs, "Early Diagnosis of Pulmonary Tuberculosis."

FLORIDA

Salary of Health Officer Reduced.—The city of Tampa adopted an ordinance, March 20, providing, among other things, that the salary of the city health officer be reduced from $9,000 to $6,000 a year, effective, April 1. The present health officer is Dr. Charles W. Bartlett, who recently succeeded Dr. Ernest C. Levy (THE JOURNAL, February 11, p. 467).

GEORGIA

Society News.—Dr. Lewis M. Gaines addressed the Fulton County Medical Society, Atlanta, March 15, on "Newer Conceptions on Internal Medicine." The Fulton County Medical Society conducted a symposium on syphilis, April 5; the speakers were Drs. Amos J. Ayers, Richard Hugh Wood, William A. Smith, Joseph Yampolsky and Walter B. Emery. Dr. John C. Blalock spoke on "Intestinal Obstruction Produced by Gallstones" and Dr. James C. Johnson, "Chronic Abdomen."

Yellow Fever Volunteer Located.—The American Association for Medical Progress, New York, announces that it has located another survivor of the yellow fever experiments conducted in Cuba by the Walter Reed Commission in 1901. James Hildebrand, aged 73, now of Atlanta, then a private in the hospital corps, now lives at 412 Berean Avenue with his sister. Records indicate that Hildebrand volunteered to be bitten by infected mosquitoes, but was declined on account of his age. However, he deliberately risked his life to prove or disprove the theory of the transmission by fomites. He slept in beds vacated by men who had just died, wore the clothes of yellow fever victims and submitted to every possible contact with contaminated objects in an effort to be infected. It was thus proved, as is well known, that yellow fever is not transmitted by fomites, and that knowledge is important. A bill has been introduced into Congress to provide further for the surviving members of these experiments and their dependents. The American Association for Medical Progress has undertaken to locate them.

ILLINOIS

Banks Must Answer Charge of Practicing Law.—The Illinois Supreme Court ruled, April 4, that banks and other corporations "engaged in the practice of law" must answer charges brought by the Illinois Bar Association by the first day of the next term of court. A test suit has been instituted by the bar association in an effort to enjoin banks and corporations from giving legal advice, acting as attorney for executors, handling real estate transactions, examining abstracts of real estate titles, preparing wills and conducting foreclosure proceedings. The case is regarded as of unusual significance (THE JOURNAL, March 3, p. 698).

Chicago

Society News.—The Chicago Society of Internal Medicine will meet at the City Club, April 23; Drs. Ludvig Hektoen, Anton J. Carlson and Kamil Schulhof will speak on further studies on the output of thyroglobulin; Drs. Leon Bloch and Abraham M. Serby, observations in the use of alkalis in the treatment of peptic ulcer, and Drs. William H. Holmes and Merritt Paul Starr, studies of a clinical syndrome characterized by emaciation, anemia, disturbed fat absorption and calcium deficiency.——The Chicago Urological Society will meet, April 26, at the John B. Murphy Memorial, 50 East Erie Street, in the evening, following a clinical meeting at the Michael Reese Hospital in the morning. Among others, Drs. Gustav Kolischer and Alfred E. Jones will speak on the reticulo-endothelial system in its relation to genito-urinary surgery, and John P. O'Neil, genito-urinary tuberculosis: acquired immunity: tuberculin.——The Medical and Dental Arts Club extends a cordial invitation to all ethical physicians and dentists to inspect the new club rooms on the twenty-second and twenty-third floors of the Medical and Dental Arts Building, 185 North Wabash Avenue. There is a bureau of information giving the schedule of clinics and society meetings; there are private dining rooms for parties and committee meetings, and luncheon and dinner are served. Ladies are welcome.——The Chicago Gynecological Society will meet, April 20, John B. Murphy Memorial Building, 50 East Erie Street; Joseph E. Markée will demonstrate the rhythmic capillary contractions of uterine transplants in the eye; Drs. Joseph L. Baer and Ralph A. Reis will read a paper on interposition operation for prolapse of the uterus, and Dr. George F. Hibbert on protein therapy in gynecology.

INDIANA

Personal.—Dr. Chester A. Marsh, Hagerstown, has accepted the superintendency of the state colony for epileptics at Selins Grove, Pa., which is under construction; three of the buildings will be completed this year and the remainder as required.——Dr. Wilson T. Lawson, Danville, celebrated the completion of his fiftieth year as a practicing physician in that community in March.——Dr. and Mrs. William E. Lybrook, Young America, celebrated their fiftieth wedding anniversary, March 26.——Dr. J. Walter Johnson, Lafayette, has been appointed a member of the city health department of Akron, Ohio, to succeed Dr. Eldred V. Thiehoff, who has resigned to engage in practice in St. Joseph, Mo.

Society News.—Mr. and Mrs. John R. Kissinger of Huntington were guests of the Huntington County Medical Society, March 6, at a meeting in honor of the late Surg. Gen. William Gorgas which was addressed by Dr. Charles H. Good. Mr. Kissinger, at the time of the investigation of the transmission of yellow fever in Cuba by the Walter Reed Commission, volunteered to be bitten by mosquitoes infected with yellow fever (THE JOURNAL, July 23, 1927, p. 302).——Dr. Clarence J. Broeman, Cincinnati, addressed the Dearborn-Ohio County Medical Society, Aurora, March

29, on "Indications for Radium in Cancer and Skin Diseases."——Dr. Victor Darwin Lespinasse, Chicago, addressed the Lake County Medical Society, Gary, March 9, on "Sterility."——The staffs of St. Mary's Hospital and Deaconess Hospital, Evansville, have a new plan for monthly clinics; the next one will be held the evening of April 26 at the Deaconess Hospital.

LOUISIANA

Hospital News.—The Greenwell Springs Sanatorium, a state institution for the treatment of tuberculosis, 17 miles northeast of Baton Rouge, has been opened. There are accommodations for seventy white patients and about thirty-four negro patients. Various police juries are being invited to provide units at the institution for the care of patients from their respective communities.——Dr. Edmund L. Leckert has been reelected chairman of the staff of Mercy Hospital, New Orleans.

Personal.—Dr. Abraham L. Metz, for thirty-six years city chemist of New Orleans, has tendered his resignation on account of ill health, effective May 1.——Dr. Aldo Castellani, professor of tropical medicine, Tulane University of Louisiana School of Medicine, addressed the New Orleans Kiwanis Club, March 13.——Dr. Oscar Dowling, New Orleans, state health officer, participated in a health jubilee at Jonesville under the direction of Dr. J. R. C. Carter, director of the local health unit. Dr. Dowling said where the "health car" stood on the railroad track the water was more than 6 feet deep during the flood period last year, and that there has since been an awakening of the people to health conditions.

The Fifes in Trouble Again.—Walter W. and Joseph B. Fife, chiropractors of New Orleans, whose previous case was in the courts for several years, have again been charged with violation of the state medical practice act in that they practiced without a license. When the Fife brothers were convicted several years ago, they appealed to the supreme court of the United States, and meanwhile they were enjoined from practicing in Louisiana. According to the *Times-Picayune*, they violated the injunction and were sentenced for contempt of court to ten days in jail. Their original sentence was thirty days for violation of the state medical laws. They were pardoned not long ago (The Journal, Dec. 18, 1926).

Society News.—Dr. John Holmes Smith, Jr., addressed the Orleans Parish Medical Society, New Orleans, March 12, on "Jaundice Occurring in Untreated Syphilis"; Dr. Herbert R. Unsworth, "Malarial Therapy in General Paralysis," and Dr. Henry B. Alsobrook, "Interstitial Pregnancy Unruptured." The society conducted a symposium on the reticuloendothelial system, March 26; the speakers were Henry Laurens, Ph.D., and Drs. R. C. Pigford and Isidore Cohn. ——The guest speakers at the recent annual meeting of the Louisiana State Medical Society were Drs. Elmer L. Eggleston, Battle Creek, Mich.; J. G. Townsend, U. S. Public Health Service; William L. Benedict, Gershom J. Thompson and Henry W. Meyerding, Rochester, Minn.——Dr. John W. Faulk, Crowley, was elected president of the Seventh District Medical Society at a meeting at Lake Charles, March 22.

MASSACHUSETTS

State Society Considers Acquiring Permanent Home.—The council of the Massachusetts Medical Society has appointed a committee to consider ways and means of acquiring a permanent home for the society and to solicit funds, if deemed advisable. The present offices used by the society are inadequate and the committee considers it advisable that the society own its own home in Boston, which would also provide room for medical meetings of various kinds throughout New England and some club advantages for members. The committee voted to launch a campaign to raise $125,000, and any sum above the amount actually used to provide the building will become the nucleus of an endowment fund.

Personal.—Dr. George R. Minot has been appointed consulting physician at the Peter Bent Brigham Hospital. Dr. Minot was recently made director of the Thorndike Memorial Laboratory at the Boston City Hospital and professor of medicine of the Medical School of Harvard University. —— Dr. Paul H. Means, Cambridge, has been appointed medical adviser to Harvard University to succeed Dr. Marshall H. Bailey.——The home and office equipment of Dr. Charles Simpson, Southbridge, were destroyed by fire, March 2. —— Dr. Francis D. Donoghue has accepted the appointment as representative of the United States at the fifth International Conference for Medical Science as applied to workmen's accidents and occupational diseases, which will be at Budapest, Hungary, September 3.——Prof. Theodore W. Richards, for twenty-four years head of the chemistry department of Harvard University, and in 1915 the Nobel prize winner in chemistry, died, April 2, aged 60. Dr. Richards won the Nobel prize in 1915 for work on the atomic weights of elements.——Dr. George F. Keenan, Boston, has been elected president of the medical alumni of Tufts College.

Society News.—Sir Humphry D. Rolleston, Cambridge, England, addressed the Harvard Medical Society, March 27, on "Clinical Significance of Abnormal Blood Pressure."—— Prof. Bruno Bloch, director, Dermatologic Clinic, University of Zurich, will lecture at the Harvard University Medical School, April 16, 5 p. m., on "Formation of Pigment in the Skin."——Dr. Abraham A. Brill, New York, will address the Massachusetts Psychiatric Society, Boston, April 20, on "Psychiatry of the Present Day from the Standpoint of the Psychoanalytical School." —— Dr. William H. Park, New York, addressed the New England Pediatric Society, Boston Medical Library, Boston, April 13, on "Results of the Use of the Calmette Tubercle Bacillus Vaccine in Infants and Animals."——A cancer clinic will be opened at the Lawrence General Hospital, April 24, under the auspices of the hospital and the Lawrence Medical Club. Clinics will be held the first and third Tuesdays of each month through the year by the members of the staff of the hospital. It will be primarily a diagnostic clinic and the cases will be referred to the family physician. —— Dr. Philip E. Marks, Pittsburgh, will address the Massachusetts Association of Boards of Health, at a luncheon, Hotel Bellevue, Boston, April 26, on "Pneumonia Quarantine in Pittsburgh"; Dr. Hans Zinsser of the Medical School of Harvard University, Boston, will open the discussion.

MICHIGAN

Four Day Clinic.—The first clinic given under the new graduate instruction program of the Michigan State Medical Society will be held in Detroit, May 14-17, in cooperation with the Wayne County Medical Society and the alumni of the Detroit College of Medicine and Surgery. The secretary of the state medical society believes that it will be the "biggest and best" medical and surgical clinic ever held in Michigan. The program includes clinicians from fourteen cities outside of Michigan, as well as local clinicians. This clinic is the opening number on a program of graduate work which the state medical society is providing for its members.

Society News.—Dr. Colonel B. Burr, Flint, and Dr. William J. Kay, Lapeer, will address the Wayne County Medical Society, Detroit, April 17, on "Why a Medical History of Michigan" and "Psychiatry in History," respectively. —— Dr. William C. Woodward, Chicago, executive secretary, Bureau of Legal Medicine and Legislation, American Medical Association, addressed the Wayne County Medical Society, Detroit, April 3, on "Basic Sciences as a Prerequisite for Medical Registration." Dr. Arnold Sturmdorf, New York, will address the surgical section, April 24, on "Gynecologic Patients," and will hold a clinic at the Harper Hospital the following day.——Dr. James E. Davis, Detroit, will address the April meeting of the Lenawee County Medical Society, Adrian, on "Inflammation of the Kidney." —— Dr. Addison D. Aldrich, Houghton, addressed the Houghton County Medical Society, March 6, on "Angioneurotic Edema." —— Dr. Alfred Adler, Vienna, gave several addresses in Grand Rapids, April 4-6, on psychologic subjects.

Promotions, Appointments and Grants.—Dr. Frederick A. Coller has been promoted from associate professor to professor of surgery at the University of Michigan Medical School, Ann Arbor, with Dr. Hugh Cabot as head of the department of surgery. Dr. Carl E. Badgley was promoted from assistant to associate professor of surgery, and Dr. James M. Pierce to assistant professor of obstetrics and gynecology. The board of the university at this meeting also accepted two gifts of the Fellowship Corporation of Battle Creek, one of $20,000 to be paid in $1,500 instalments quarterly for studying problems of metabolism, the other of $2,500 for the investigation of bran as an article of diet. Dr. Louis H. Newburgh is to carry on the work in connection with these grants. At the March meeting of the board of regents of the university, Reuben L. Kahn, Sc.D., discoverer of the Kahn precipitation test for syphilis and serologist for the state laboratories at Lansing, was appointed director of the laboratories of the University Hospital and assistant professor of clinical bacteriology and serology in the medical school. Dr. Kahn, who will spend the summer abroad in research, was guest of honor at dinners given by the Michigan Department of Health and the Lansing section of

the Society of American Bacteriologists previous to his departure. Dr. Charles L. Brown of Peter Bent Brigham Hospital, Boston, has been appointed assistant professor of medicine at the medical school, and Malcolm H. Soule, Sc.D., assistant professor of bacteriology, was promoted to associate professor.

MINNESOTA

Personal.—Dr. Frederick L. Webber has been appointed police surgeon of St. Paul.——Dr. Robert B. Fleeger has been appointed head surgeon of the Homestake Mining Company Hospital, Lead, S. D., to succeed Dr. Francis E. Clough, resigned.——Dr. Charles E. Proshek, Minneapolis, has been appointed consul for Minnesota, North Dakota, and Montana by the Czechoslovakian Republic.——Dr. Mary C. Ghostley, International Falls, has been elected president of the Upper Mississippi Valley Medical Society of Minnesota for the ensuing year.

"Cancer Champion" Arrested.—The woman who operated the Vian Medical Institute at Osakis has been arrested for violating the medical practice act and sentenced to a fine of $250, or eight months in jail. According to *Minnesota Medicine*, this woman has neither medical education nor license. However, she had been treating advanced cases of tuberculosis, cancer and nephritis, and offered to shoot any one who would molest her. She claims to be the "champion of the world on cancer." She prescribed for one Jacob Sieben of Sauk Centre, whose widow had a receipt for the fee paid, as well as the unused portion of the medicine.

New Fellows at the Mayo Foundation.—The following physicians, who have received appointments as fellows at the Mayo Foundation, are majoring in the subjects indicated:

Dr. Reuben M. Anderson, Hackensack, N. J., surgery.
Dr. Richard S. Anderson, Durham, N. C., surgery.
Dr. Henry S. Bonesteel, Denver, surgery.
Dr. Hugh L. Davison, New York, surgery.
Dr. Joseph M. Donald, Birmingham, Ala., surgery.
Dr. John M. McCaughan, St. Louis, surgery.
Dr. Charles B. Puestow, Oshkosh, Wis., surgery.
Dr. James C. Thomas Rogers, Canton, Ill., surgery.
Dr. Theodore L. Bliss, Sandusky, Ohio, medicine.
Dr. Bernard J. Gilshannon, Sumner, Wash., medicine.
Dr. Arthur R. Kintner, Nehawka, Neb., medicine.
Dr. Harry C. Powelson, East Canton, Ohio, medicine.
Dr. Elmer G. Wakefield, Fayetteville, Ark., medicine.
Dr. John H. White, Portland, Ore., medicine.
Dr. Rudolph H. Sundberg, St. Paul, medicine.
Dr. Douglas E. Scott, Victoria, B. C., urology.
Dr. Omer C. Rathman, Jamestown, N. D., obstetrics and gynecology.
Dr. Harry F. Bayard, Stewartville, proctology.

MISSOURI

Personal.—Dr. Andrew C. Henske has been elected president of the Trudeau Club of St. Louis for 1928.——Dr. James Stewart, secretary and member of the state board of health, is a candidate for the Republican nomination for governor of Missouri.——Dr. Otto H. Schwarz has returned after about seventeen months abroad to become obstetrician in chief at the new maternity hospital and to head the department of obstetrics at Washington University School of Medicine, St. Louis.

Society News.—Dr. James G. Montgomery, Kansas City, addressed the Grundy County Medical Society, recently, on "Splenic Anemia," and Dr. Donald R. Black, Kansas City, on "Pernicious Anemia."——Dr. Clinton K. Smith, Kansas City, addressed the Nodaway County Medical Society, Maryville, recently, on "Differential Diagnosis in Diseases of the Kidney"; Dr. Minford A. Hanna, Kansas City, addressed the society, March 9, on "Application of Kielland Forceps."——Dr. William J. Mayo, Rochester, Minn., will give an open lecture, April 17, at the Moolah Temple, St. Louis, under the auspices of the American Chemical Society on "Advancement of Learning in Medicine Through Chemistry."——About twenty-one surgeons from fifteen southern cities, members of the Southern Society of Clinical Surgeons, attended clinics at hospitals in St. Louis, April 4.

State Medical Meeting at Columbia.—The annual meeting of the Missouri State Medical Association will be at Columbia, May 14-17, with the Boone County Medical Society as host. The committee has arranged for symposiums on the arthritides, backache, headache and skin diseases. There will be individual contributions also. The sessions will begin a half hour earlier than usual to permit the appearance of more speakers. The postgraduate committee, with the cooperation of the guest speakers, has provided a special session for Friday, May 18, which the state medical society hopes will be a permanent arrangement. President Frank G. Nifong will deliver the annual address, Wednesday evening. The guests will speak on public health topics at a public meeting, Thursday evening. The alumni dinner will be held Tuesday evening. The guests will be Drs. Joseph C. Bloodgood, Baltimore, who will speak on "What Every Doctor Should Know About Cancer"; Thomas S. Cullen, Baltimore, "Uterine Hemorrhage"; Elliott P. Joslin, Boston, "Dangers of the Diabetic"; Francis Pottenger, Monrovia, Calif., "Early Diagnosis of Tuberculosis," and Frank Smithies, Chicago, "A Practical Method for Examination of Patients Affected with Intestinal Stasis, with Suggestions for Treatment." The speakers for the symposiums are all from Missouri. All scientific sessions and meetings of the house of delegates, the exhibits and the registration desk will be in the Missouri Methodist Church. Friday will be devoted to clinics and demonstrations of various tests and reactions. Members are invited to ask for demonstrations of tests. Drs. Bloodgood and Cullen will hold clinics and give practical demonstrations of cancer problems; Dr. Joslin, demonstrations of the practical management of the diabetic patient, and Dr. Neff, demonstrations of the cutaneous tests for communicable diseases.

MONTANA

Laboratory Worker Dies of Spotted Fever.—A. Leroy Kerlee, a recent graduate of Montana State College, died, February 14, of Rocky Mountain spotted fever, contracted while working as a bacteriologic assistant in the laboratory at Hamilton to earn funds to pursue a medical course. Kerlee is said to have been vaccinated against the disease. He is the fourth person to die among those who have conducted experimental investigations on this disease.

NEW HAMPSHIRE

Personal.—Dr. John J. Topham, South Berwick, Maine, has been appointed university physician in the University of New Hampshire, Durham, to succeed the late Dr. Nathan L. Griffin.

Meeting of Surgical Club.—The thirtieth semiannual meeting of the New Hampshire Surgical Club will be held at the Elliot Hospital, Manchester, April 24; there will be a clinic in the morning and a literary program in the afternoon. The president of the club is Dr. Elmer M. Miller, Woodsville; the secretary, Dr. John F. Holmes, Manchester.

NEW JERSEY

Society News.—The Maltbie Chemical Company, Newark, has made a grant for a research fellowship for one year to the department of chemistry of Princeton University, which will cover certain phases of the chemistry of creosote.——Dr. Morris I. Schamberg, New York, addressed the Atlantic County Medical Society, Atlantic City, April 13, on "Surgery of the Mouth."

Personal.—Willem Rudolfs, Ph.D., professor of water supplies and sewage disposal, Rutgers University, lectured, March 27, at the Johns Hopkins University School of Hygiene and Public Health on "Biology of Sewage Disposal."——Dr. Chevalier Jackson, Philadelphia, addressed the anniversary meeting of the Academy of Medicine of Northern New Jersey, Newark, March 21, on "Certain Class of Unavoidable Accidents to Children."

Record Low Death Rate.—The lowest death rate in the fifty-five years of vital statistics of the state of New Jersey was that for 1927, when it was 11.43 per thousand of population. Fourteen years ago, it was double last year's rate, and in 1926 it was 70. The infant mortality rate was 61 per thousand of live births. Unfortunately, the state department says, there was not a similar decline in the number of mothers who died in childbirth; there was an increase from 5.4 in 1926 to 6.1 in 1927. The birth rate declined slightly to 20 per thousand, although the total number of births increased 428 over the previous year, making a total for 1927 of 72,800 births. There were fewer deaths from typhoid and measles in New Jersey in 1927 than during any preceding year, but the tuberculosis and cancer rates showed a slight increase.

NEW YORK

"Eye Specialist" Sentenced to Sing Sing.—Simon Mohr, alias "Dr. Renner," who is reported to have performed a fake cataract operation on a woman in Orange County last year and charged $1,150, has been convicted of grand larceny and was sentenced, February 26, to Sing Sing Prison, according to *Health News*, for not less than one year and six

months or not more than two years and six months. The state police, the New York City police and the state health department cooperated in arresting and bringing this man to trial (THE JOURNAL, Dec. 17, 1927, p. 2124).

New York City

Hospital News.—At a meeting in the mayor's office, March 8, the distributing committee of the United Hospital Fund allotted a total of $625,000 to the group of nonmunicipal hospitals, each one receiving a sum in proportion to the amount of free service to the sick during the last year.

Society News.—Dr. Milton R. Bookman was elected president of the Medical Society of the Borough of the Bronx, March 23, and Dr. Isidore H. Goldberger, secretary, for the ensuing year.——Dr. Harlow Brooks addressed the Harlem Medical Association, April 2, on "Treatment of Rheumatism," and Dr. Reginald Burbank, on "Etiology and Treatment of Chronic Rheumatoid Conditions."

Hospital News.—At the annual meeting, April 15, of the Hospital for Joint Diseases, a statute of the late Dr. Henry W. Frauenthal, the founder, will be unveiled. Dr. Joseph C. Bloodgood, professor of clinical surgery, Johns Hopkins University School of Medicine, Baltimore, will give an address.——Dr. Milton C. Winternitz, dean and Anthony N. Brady professor of pathology, Yale University School of Medicine, New Haven, Conn., addressed the annual meeting of the Mount Sinai Hospital, March 25, on "Medical Education and Research in the Modern Hospital."

Salaries of Columbia Professors Increased.—Nicholas M. Butler, L.L.D., president of Columbia University, has announced advances in the salaries of teachers and administrative officers. The new schedule, it is reported, provides a minimum salary of $7,500 a year for full professors, an increase from $6,000; for associate professors, a minimum of $5,000 in place of $4,500, and for assistant professors, a minimum of $3,600 instead of $2,400. There will be also salaries of from $9,000 to $12,000 for individual professors of exceptional service or distinction, and a salary of $6,000 for some associate professors.

Government Indicts Quinine Distributors.—The federal grand jury, March 30, indicted a number of persons and corporations, all foreign except one, on charges of violating the antitrust laws in connection with the distribution of quinine. It is alleged that prices were raised and the supply of cinchona bark was reduced. The Kina Bureau, a Dutch concern, which is said to be the directing factor in the alleged combination, is alleged to have a contract with planters of cinchona trees in Java which enables it to control 90 per cent of the world supply of cinchona bark. This contract ends with the current year and the present action may make it impossible for the contract to be renewed (THE JOURNAL, March 31, p. 1050).

Baltimore Medical Club.—The annual meeting of this organization will be at the Hotel Commodore, May 5, at 7:30 p. m.; tickets, $5 each. Graduates of any of the medical colleges of Baltimore are welcome, whether members of the club or not. The speakers will be Dr. Harry Friedenwald, professor of ophthalmology and otology, University of Maryland School of Medicine, Baltimore, and Raymond A. Pearson, L.L.D., president of the University of Maryland. Entertainment has been arranged. The club has made arrangements for a trip to Baltimore, May 30, in a special car. Representatives of alumni of both Johns Hopkins and the University of Maryland will receive the party the following day. Those who desire may attend the annual banquet of the University of Maryland Alumni Association. The party will be entertained, June 1, at the Hillendale Country Club. The graduating exercises of the University of Maryland will be June 2. Persons interested should communicate with the president of the Baltimore Medical Club, Dr. Dougal Bissell, 219 West Seventy-Ninth Street, New York.

Immunization of Infants with Calmette Vaccine.—Dr. William H. Park has written a note for the *Child Health Bulletin* on the experience of New York City in the first year that it has used the Calmette vaccine for the immunization of infants against tuberculosis. They decided to take only babies from tuberculous families and at least an equal number of similar infants who did not receive any vaccine to be used for controls. It has been a year since the first infant was given the vaccine. They now have fifty babies under observation who have received treatment and about twice as many controls. None of the treated babies have died of tuberculosis and no harmful effects from the vaccine have been noted. Four died from other causes than tuberculosis. In the controls, about 7 per cent have died of tuberculosis.

Committee on Maternal Health Moves.—The offices of the Committee on Maternal Health have been moved to the New York Academy of Medicine Building, Fifth Avenue and One Hundred and Third Street. The committee is chiefly concerned about the medical aspects of human fertility under the general headings of control of conception, sterility, sterilization and average sex life. Laboratory research in these fields has been undertaken in cooperation with seven hospitals and medical schools, an outpatient clinical service and study has been initiated in about eight hospitals and infirmaries in New York, and similar projects have been helped in other cities. The committee has published eleven reports, six are in preparation and three books have been started. Inquiries concerning the work should be addressed to the executive secretary, Louise S. Bryant, Ph.D.

Enforcement of Medical Practice Act During 1927.—The report of the city department of health for 1927 shows a total of 347 complaints relating to illegal medical practice. Thirty-five prosecutions were disposed of as follows: penitentiary sentences, three; fined, eight; suspended sentences, nineteen; convicted appeal, one; absconded, one; discharged, two, and out of business, one. As a result of complaints about misleading statements published, advertising of a medical nature was censored by the department in cooperation with the newspapers. Physical therapy was brought under regulation in the revision of the medical practice act in 1926, and a number of establishments were found to be violating the medical practice act. During 1927, owing to competition between local broadcasting stations, there entered this field objectionable advertising. A number of quacks and fake health institutes were quick to grasp this opportunity to reach the public. Twelve complaints were forwarded to Washington, D. C., in 1927 from the department of health relative to alleged illegal and improper radio broadcasting. A total of 1,783 abortions were reported to the department in 1927. In the 380 inspections of a group of 1,338 licensed masseurs, 122 violations were found, which indicates, in the opinion of the department, a high percentage of irregular practice and a necessity for more intensive supervision for this class of work.

NORTH CAROLINA

Hospital News.—Thirty-four Asheville physicians will be associated with the Asheville Psychiatric Institute, a new hospital which will occupy the buildings of the old Hillcrest Manor and which will be opened soon.——Dr. Frank Sharpe has been elected president of the St. Leo's Hospital staff, Greensboro, for the coming year.——The Carolina General Hospital, the Moore-Herring Hospitals, and the organization of the Wilson Clinic have consolidated into what will be known as "The Memorial Hospital," which will occupy the Carolina General Hospital building in Wilson.

Society News.—Dr. Frederick R. Taylor, High Point, who recently became associated with the state board of health, addressed the Guilford County Medical Society, High Point, February 2, on "Periodic Health Examinations," and Dr. Charles S. Grayson, High Point, on "Some Phases in Obstetric Practice."——Dr. Joseph L. Spruill, superintendent, Guilford County Sanatorium for the Treatment of Tuberculosis, addressed the Fourth District Medical Society, Smithfield, recently, on "Some Medical Follies."——The Cumberland County Medical Society was the guest, February 21, of the medical officers at Fort Bragg, where Col. David Baker is the surgeon.

OHIO

Hospital News.—The Massillon State Hospital, Massillon, is said to be filled beyond capacity; additional facilities are under construction.——The staff of the Dayton State Hospital presented a report before the February 3 meeting of the Montgomery County Medical Society of 113 cases of general paralysis of the insane, treated by malaria therapy.

Personal.—Dr. Thomas V. Fitzpatrick, Cincinnati, was tendered a testimonial dinner at the University Club, recently, to celebrate his completion of fifty-two years in the practice of medicine.——Dr. Charles L. H. Hintzelmann, Cleveland, was recently guest of honor at a luncheon given by the Lutheran Hospital staff on the occasion of his retirement after fifty years in practice.——Dr. Norris W. Gillette, Toledo, was awarded the Distinguished Service Cross sometime ago, the *Bulletin of the Toledo Academy of Medicine* says, for reorganizing a disorganized battalion whose officers had been killed in the Argonne in 1918.

Study of Admissions to Dispensaries.—Like other medical societies, the Academy of Medicine of Cleveland has had complaints from members that institutions have admitted as free patients persons whom they believe able to pay private practitioners. The academy proposed to the welfare organizations that a fact-finding commission study the problem from the point of view of the economics of the patients and the relation of dispensary practice to the practice of medicine. The commission has started the study by distributing a questionnaire to the major hospitals and dispensaries of Cleveland. It is hoped, the bulletin of the academy says, that a definite picture of the actual conditions will be obtained, and that facts discovered will indicate what can be done to improve the situation. Representing the academy on the commission are Drs. Joseph R. Thompson, chairman, Richard Dexter and Russell H. Birge.

Society News.—The Miami and Shelby county medical societies met jointly at the Piqua Memorial Hospital, Piqua, recently, Drs. John F. Hill, Piqua, and Harry A. Lindsay, Sidney, the presidents of the respective societies, spoke on "Medical Economics and "The Progress of Medicine."——Dr. Edward H. Hatton, professor of pathology, Northwestern University Dental School, Chicago, addressed a joint meeting of physicians and dentists of Allen County, recently, on "Follies Regarding the Pulling of Infected Teeth."——The Four County Medical Society (Williams, Henry, Fulton and Defiance) held a symposium on syphilis in February at Defiance which was presented by Drs. Seth E. Demuth, Hicksville; Paul B. Newcomb, Defiance; John U. Fauster, Defiance, and George W. Demuth, Sherwood.——The Academy of Medicine of Cleveland held a symposium on syphilis, March 10; the speakers were Drs. Earl W. Netherton, Lemuel R. Brigman and Clyde L. Cummers.——At the fifty-fifth annual banquet of the Mahoning County Medical Society, Youngstown, the speakers were Dr. Cyrus C. Sturgis, Ann Arbor, Mich., on "Pernicious Anemia," and LeRoy Manchester, an attorney, on "Standards of Practice Common to Physicians and Lawyers."——Dr. Harry G. Sloan, Cleveland, addressed the Portage County Medical Society at the home of Dr. Stephen U. Sivon, Ravenna, on "The Surgery of Infancy"; Dr. George J. Wright, Pittsburgh, addressed the March meeting on "Malarial Treatment of Neurosyphilis."——Dr. Leslie L. Bigelow, Columbus, president of the Ohio State Medical Association, addressed the Knox County Medical Society, recently, on "Diagnosis of Acute Appendicitis."——Dr. Elliott P. Joslin, Boston, will address the Academy of Medicine of Cleveland, April 20, on "The Severe Diabetic and How to Make Him Mild," and Dr. Farrell T. Gallagher, Cleveland, on "Surgery of the Diabetic."——Dr. Alfred Adler, Vienna, will speak under the auspices of the Adult Education Association in the Allen Memorial Medical Library, April 21, 8 p. m., on a psychologic subject; tickets, $1.——Dr. Burton E. Hamilton, Boston, addressed the Toledo Academy of Medicine, April 6, on "Heart Diseases Complicating Pregnancy." Preceding the address, the third annual Memorial Day exercises were held.

PENNSYLVANIA

Society News.—Dr. Herbert Fox, Philadelphia, will address the Lancaster City and County Medical Society, April 16, on "Underlying Reasons for Development of Pulmonary Tuberculosis in Man and Lower Animals." Dr. William S. O. Sherman, Pittsburgh, addressed the society, April 4, on "Industrial Surgery."——Dr. Russell S. Boles, Philadelphia, addressed the Berks County Medical Society, April 10, on "Practical Consideration of Chronic Disease of the Gallbladder and Appendix."——A bridge tea for families of Allegheny County physicians was held at the William Penn Hotel, Pittsburgh, April 9. At the annual meeting of the society, April 10, the speakers were John G. Bowman, Dr. Raleigh R. Huggins, Dr. Alexander H. Colwell and Hiram Webb.

Philadelphia

Society News.—Dr. Julius H. Hess, Chicago, addressed the Philadelphia Pediatric Society, April 10, on "Splenomegaly in Children."——Dr. S. Burt Wolbach, Shattuck professor of pathologic anatomy, Medical School of Harvard University, Boston, will deliver the annual conversational lecture to the Philadelphia Pathological Society, April 19, on "The Pathology of Avitaminoses."

William Potter Memorial Lectures.—Sir St. Clair Thomson, London, past president of the Royal Society of Medicine, will give the annual William Potter Memorial Lecture, Jefferson Medical College, April 25, on "The Strenuous Life of a London Physician in the Eighteenth Century." The board of trustees of Jefferson has founded these lectures as a memorial to the late William Potter, and has appointed for life Dr. Chevalier Jackson as the William Potter Memorial lecturer to deliver to the senior class each year a series of lectures on bronchoscopy, esophagoscopy and gastroscopy, and to arrange one additional lecture each year to be given by some eminent authority in any branch of science.

Personal.—Dr. Solomon Solis Cohen has accepted the position of medical director of the Jewish Convalescent Home which will be erected at Willow Grove, a position which has been vacant since the death of Dr. Aaron Rivkees several years ago. It was thought necessary to fill the position in view of the larger scope of activities of the home in Willow Grove than was possible in the old home at Andalusia.——At the annual meeting of the Alumni Association of Jefferson Medical College, February 23, Dr. Willard H. Kinney, Philadelphia, was elected president.——Dr. Francis S. Ferris, Glenside, has been appointed chief medical examiner for the Philadelphia and Reading Relief Association, succeeding Dr. Casper Morris, who has retired.——Dr. James M. Anders, professor of medicine, University of Pennsylvania Graduate School of Medicine, has been elected president of the board of trustees of the Perkiomen School, Pennsburg. Dr. Anders was formerly vice president of the board; he is also president of the board of trustees of Ursinus College.

RHODE ISLAND

Society News.—Capt. William H. Bell, commanding officer, U. S. Naval Hospital, Newport, addressed the Rhode Island Medical Society, Providence, March 1, on "Role of the Naval Medical Service in Construction of the Panama Canal" and Dr. Alexander M. Burgess, Providence, on "Surgery in Diabetes." The moving picture, "The Doctor Decides," was exhibited through the courtesy of the state tuberculosis association and the state board of health.

Women's Clubs and Health Activities.—According to the *American Journal of Public Health*, Rhode Island has won the prize for 1927 offered by the General Federation of Women's Clubs for having the highest percentage of local clubs engaged in public health activities. The award is one month's service of one person engaged in making a survey of a community, and state commissioner of health, Dr. Byron U. Richards, Providence, has selected Warwick as the community to receive this service.

SOUTH CAROLINA

Chiropractic Bill Killed.—The state senate, March 9, voted 34 to 14 to strike out the enacting words of the bill to regulate the practice of chiropractic. In the discussion preceding the vote, Senators Goodwin, Wise, Henderson and Shealy opposed the bill and Senator Williams of Aiken was its principal supporter. The house previously had passed the bill.

TENNESSEE

Society News.—Dr. James R. Reinberger addressed the Memphis and Shelby County Medical Society, April 3, on "Repair of Old Cervical and Perineal Lacerations at Time of Delivery"; Dr. Walter S. Lawrence on "Cholecystography —Demonstration of by Roentgen Rays," and Dr. John M. Maury, on "Cancer of the Cervix Uteri."

New County Health Units.—Sullivan, Wilson and Smith counties have provided for full-time county health units as of April 1; Greene County has made its appropriation, effective, July 1, when new health units for Monroe and Campbell counties will be established. Dr. Eugene L. Bishop, state health commissioner, is reported to have said that 37.8 per cent of the rural population of the state is being served by full-time health units, as compared with 22 per cent, July 1, 1926. It is expected that by July 1, 1928, twenty-three full-time county health units will be in operation in Tennessee, and at that time about 44.5 per cent of the rural population will be served by full-time health units.

TEXAS

Health at El Paso.—Telegraphic reports to the U. S. Department of Commerce from sixty-seven cities with a total population of about thirty million, for the week ending March 31, indicate that the highest mortality rate (26.6) was for El Paso, and that the mortality rate for the group of cities as a whole was 15.3. The mortality rate for El Paso for the corresponding week last year was 16.1, and for the group of cities, 13.6.

WASHINGTON

Society News.—Dr. Julius Bauer, Vienna, Austria, addressed special meetings of the King County Medical Society in the Medical-Dental Building, Seattle, March 26-27, and held clinics. His subjects were endocrine disease, obesity and individual constitution in pathology. Dr. James Tate Mason addressed the society, April 2, on "Postoperative Results in Peptic Ulcers," and Dr. W. B. Penney, Tacoma, on "Pierce County Medical Publicity."

Eight Hundred at Banquet.—At the fortieth anniversary of the King County Medical Society, Seattle, March 10, about 800 members and guests banqueted at the New Washington Hotel in honor of the retiring president, Dr. Allison T. Wanamaker. The toastmaster was Dr. Arthur E. Burns, who introduced thirty-three new members; 90 per cent of the physicians in King County are members of the society. The address of the evening was given by Judge Calvin Hall, who impressed on the audience their duty in inquiring into the cause of crime. Music was furnished by the society's own orchestra and quartet. The incoming president is Dr. David C. Hall.

WEST VIRGINIA

Camp for Boys.—A group of business and professional men of Clarksburg, Buckhannon and the vicinity have established a summer camp for boys 5 miles from Webster Springs, along the Gauley River, on a 25 acre tract. It is operated on a nonprofit basis and is equipped with a gymnasium, recreation hall, two-room school, ten sleeping cabins, workshop, first-aid station, dining hall and electric light plant. A program has been arranged that will occupy the whole day with enjoyable and useful things. Among the organizers of the Gauley River Camp School Association is Dr. Daniel P. Kessler, Weston. The object is to assist in the development of boys.

Society News.—Dr. Henry H. Wescott, Roanoke, Va., addressed the Mercer County Medical Society, Bluefield, recently, on "Joint Injuries in Industrial Work."——Dr. Joseph C. Bloodgood, Baltimore, addressed the Ohio County Medical Society, March 2, on "What Everybody Should Know About Cancer."——Dr. Henry Kennon Dunham, Cincinnati, addressed the Kanawha County Medical Society, Charleston, March 20, on "Value of Pathologic Interpretations in Treatment of Tuberculous Patients," and Dr. Robert D. Roller, Jr., Charleston, on "Incipient Pulmonary Tuberculosis from a Clinical Standpoint."——Drs. Russell B. Bailey and Delivan A. MacGregor, Wheeling, addressed the Lewis County Medical Society, Weston, March 13, on "Surgical Treatment of Pulmonary Tuberculosis" and "Pathology of the Chest," respectively.——Dr. Charles A. Ray, Charleston, president of the state medical association, addressed the March meeting of the Logan County Medical Society on the work of the association, and Dr. Gratton G. Irwin, Charleston, on "The Prostatic Patient."——The Ohio County Medical Society, Wheeling, gave a symposium on tuberculosis, March 16, during which the film "The Doctor Decides" was exhibited. Among the speakers were Drs. John G. Pettit, Hopemont; Russell B. Bailey, Wheeling, and William M. Garrison, St. Clairsville, Ohio.

GENERAL

News of Epidemics.—Seton Hall College and Seton Hall High School, South Orange, and the sixth grade of Fairmont School, West Orange, N. J., were recently temporarily closed because of an outbreak of scarlet fever.——About ten cases of smallpox were reported at Central City, Ky., in the two weeks ending March 28.——An outbreak of chickenpox was reported in Monmouth County, New Jersey, March 23.

Chain Drug Stores.—According to the *Druggists Circular*, as noted in the New York *Times*, there are 328 chain drug organizations in the country which operate 2,725 drug stores, as compared with a total of 1,563 chain drug stores in 1920. About one drug store in every twenty now in this country is part of a chain. The average number of stores per chain is 8.3; in 1920 it was 4.3. Established chains are increasing in size, and new ones are starting with strong financial backing.

Estimated Increase of Population.—The U. S. Department of Commerce announces an estimate of the population of the United States made by the bureau of census by estimating the increase since 1920 on the basis of available data regarding births, deaths, immigration and emigration. The total estimated population on July 1, 1928, will be 120,013,000, as compared with 105,710,620 on Jan. 1, 1920, an increase during that period of 14,302,380, or an average annual increase of about 1,682,632.

Prize for Discovery of Etiology of Plant Disease.—According to *Science*, the state of Rio de Janeiro, Brazil, has announced the offer of a prize of about $1,200 to that scientist, Brazilian or foreign, who prior to Dec. 31, 1928, determines the etiology of sugar cane mosaic and an effective method of combating it, and presents the best thesis on the subject, this thesis to be published for the use of the public. Further information can be had from Enrico Teixeira Leite, director, Instituto Fomento e Economia Agricola, Ministerio da Agricultura, Rio de Janeiro, Brazil.

The Government Needs an Anatomist.—There is a vacancy in the office of the surgeon general of the army, Washington, D. C., for a senior medical technician (an anatomist), whose duties will be the preparing and mounting of gross anatomic specimens under the direction of the curator of the army medical museum; the preparation of illustrations of specimens; the procuring and issuing of laboratory supplies, and other duties relating to such work. Men are desired as applicants. The entrance salary is $1,860 a year, with advancement after a probationary period of six months that depends on the individual and the vacancies in higher positions. Applications must be on file with the U. S. Civil Service Commission, Washington, D. C., not later than May 8. Information can be obtained on request to the commission, or from civil service examiners at the postoffice or customs house in any city.

American Societies for Experimental Biology.—The annual meeting of the Federation of American Societies for Experimental Biology will be at Ann Arbor, April 12-14, with headquarters at the University Union. The federation is formed by the Physiological Society, the Society of Biological Chemists, Inc., the Society of Pharmacology and Experimental Therapeutics and the Society for Experimental Pathology. The number of papers presented for this meeting has been so large that it has been impossible to place them all on the program for reading and discussion, and the number is also too large to permit an abstract of the speakers and subjects in THE JOURNAL. Papers will be limited to five and ten minutes each. It is evident that a most unusual gathering of scientific material will be presented at this meeting. More than fifty papers will be read by title only, it being impossible to provide for them otherwise on the program.

Oto-Ophthalmological Meeting at Santa Barbara.—The sixteenth annual meeting of the western section of the Pacific Coast Oto-Ophthalmological Society will be at Santa Barbara, Calif., April 18-20, under the presidency of Dr. William J. Mellinger, Santa Barbara, and with official headquarters at the Carrillo Hotel. Among other subjects, bronchoscopy and esophagoscopy with case reports will be discussed by Drs. Alphonso N. Codd, Spokane, Wash., and Harrington B. Graham, San Francisco; "Comparative Value of Glaucoma Operations," by Dr. Luther C. Peter, Philadelphia, and "Relation Between the Subepithelial Connective Tissue (Mesenchyma) with the Marrow Spaces in Embryos and Infants," by Dr. Norval H. Pierce, Chicago. The western section of the American Laryngological, Rhinological and Otological Society will meet, April 21, and the meeting will be opened by the president of the national society, Dr. John F. Barnhill, Indianapolis.

Surgeon General for Veterans' Bureau Proposed.—An effort will be made at the present session of Congress to pass legislation placing the medical personnel of the veterans' bureau on a basis similar to that of the army and navy with reference to salary, longevity and other allowances. Such a bill was introduced in the House of Representatives, April 2, by Representative Johnson, chairman, House Committee on World War Veterans' Legislation. It is similar to legislation proposed at the last session of Congress. Under the terms of the bill, the pay and allowances of physicians in the veterans' bureau shall be the same as that provided for officers of the medical corps of the army; the medical director shall have a grade corresponding to that of surgeon general; assistant medical directors that of assistant surgeons general, and other physicians in grades corresponding to colonels, lieutenant colonels and other army officers. The bill provides for retirement privileges after the completion of fifteen years' service.

Health Problems Studied by Bureau of Mines.—An outline has been made public of the problems affecting the health of workers in different mineral industries which are being investigated at the Pittsburgh Experiment Station of the U. S. Bureau of Mines. Among these problems are: (1)

the effect of industrial dusts encountered in mining operations and factories; (2) stream pollution by acid mine waters; (3) effect on composition of mine drainage of sealing abandoned mines so as to exclude air. The station has developed an instrument for recording extremely small concentrations of carbon monoxide in the air; it makes routine tests of gas masks and dust respirators as new masks come on the market; it is studying by animal experimentation the effect of high oxygen concentration, as men doing mine rescue work are compelled to breathe such air for a long time; a study is being made of the pathology of carbon monoxide poisoning, and information is being collected regarding the physiologic reactions attending periods of work at high temperatures and humidity.

Device for Demonstrating Mendelian Inheritance.—A member of the U. S. Department of Agriculture has invented a "herediscope" to aid in teaching the mendelian theory of inheritance by the fundamental principles of heredity. Inheritance is a complex study. The average person is unwilling to gain an understanding of the subject by reading, and it is difficult for persons well versed in heredity to write so it can be readily understood. The herediscope, according to the *Journal of Heredity*, consists of a number of groups of aluminum cups, each group representing an individual animal arranged in the form of a pedigree showing three generations. There are numerous small colored balls, each one representing a given hereditary character, and these are placed at random in the cups of the starting generation. When the lecturer or person operating the machine presses a trigger, half of the character symbols from each parent cup are transmitted to the offspring, the selection of characters being by chance as is the case in actual matings. An observer can thus see how certain characters may be transmitted or how they may be lost entirely; how they may be present in an individual but covered up by dominant characters, and how in the absence of dominant characters they may appear again. R. R. Graves of the bureau of dairy industry made the machine; as yet there is only one in existence.

Agreement on Standard for Thermometers.—Manufacturers, distributors and organized users of clinical thermometers at a conference in Washington, D. C., March 30, approved a standard which established the minimum requirements in the manufacture of clinical thermometers and agreed that, under the standard, manufacture of thermometers will begin October 1. Manufacturers will have until March 30, 1929, for disposing of existing stocks. Every individual, maximum, self-registering thermometer for sale to measure body temperatures shall meet the requirements, some of which are that Fahrenheit thermometers shall be graduated to 0.2 degree; centigrade thermometers to 0.1 degree. There shall not be more than 10 degrees F. or 5.5 degrees C. per inch of scale on the thermometers; the range of scale shall be at least from 96 F. or 35 C. to 106 F. or 41 C. The normal point, except for veterinary use, shall be designated by an arrow or other mark at 98.6 F., and in lieu of the numeral 37 on centigrade thermometers. All thermometers shall be aged for a period of at least four months, aging to begin after the completion of the constriction. With each thermometer, there shall be the statement of the manufacturer, undersigned, certifying that the thermometer will meet the requirements, some of which are not noted here.

CANADA

Patient with Radium in Bandage Absent.—Walter Haddon, aged 74, was absent without leave from St. Paul's Hospital, Vancouver, March 9, with a head bandage in which there was $30,000 worth of radium. The police were requested to locate the patient.

Osteopaths Cannot Use the Title "Dr."—Judge Denton, Toronto, of the county court, dismissed the appeal, January 28, of Osteopath Pocock, who had been fined $25 by a magistrate for illegally using the title "Dr." Pocock was acquitted in his first trial before a magistrate and the College of Physicians and Surgeons appealed the case. It appears that osteopaths in Ontario who have been using the title "Dr." on doors, name plates, telephone directories and in advertisements cannot now do so without incurring the penalty provided in the Ontario Medical Act.

Society News.—Dr. John B. Deaver, Philadelphia, addressed the Academy of Medicine, Toronto, March 6, on "Chronic Gallbladder Disease." The April meeting of the academy will be addressed by Dr. Davidson D. Black, professor of anatomy, Peking Union Medical College, on "Asia and Human Dispersal."——Dr. Donald E. H. Cleveland, Vancouver, addressed the Victoria Medical Society, January 9, on acne vulgaris and external chemical irritation.——Dr. James G. McKay, Vancouver, addressed the Fraser Valley Medical Society, January 10, on "The Common Psychoses Encountered in General Practice."——Dr. John J. R. MacLeod, associate dean and professor of physiology, University of Toronto Faculty of Medicine, was awarded the honorary degree of doctor of science by Jefferson Medical College and the University of Pennsylvania, March 22, when he took part in the three hundredth anniversary celebration of William Harvey's discovery of the circulation of the blood.

Traveling Clinics Are "Enormous Success."—The Canadian Pacific Railway has issued a health bulletin in which it is announced that the traveling clinics, operated under the Provincial Department of Health in Northern Alberta, may be extended to cover the entire province as a result of a demand for the service. According to the New York *Times*, the announcement states that the clinics have been an "enormous success." Each clinic has three nurses, two doctors and a dentist. It is "ceaselessly moving" throughout the country districts and here is how it works. A nurse scouts ahead to examine school children, then the clinic arrives. One physician removes tonsils and adenoids; teeth are extracted, and the clinic moves on. The other physician remains behind twenty-four hours to supervise the children who have been operated on. The fees charged "are very small." The traveling clinic is another addition to the constantly extending medical services to the rural communities of western Canada.

FOREIGN

Graduate Course in Tuberculosis.—The Faculté de médecine of Strasbourg, France, announces a postgraduate course in tuberculosis and diseases of the respiratory passages, to be given at Strasbourg under the direction of Dr. E. Vaucher, chargé de cours of the faculty of medicine, October 8-25; following the course, there will be a study tour from October 26 to November 1, with the heliotherapeutic station of Leysin, Switzerland, as its chief objective. Requests for registration should be addressed to Dr. Vaucher, 8, quai Finkwiller, Strasbourg. A fee of 350 francs (about $14) will be charged those who wish to take the complete course, including the practical work. No fee will be exacted for the theoretical lectures to be given at 8:30 a. m. and 5:30 p. m. They are open to all physicians and students.

Personal.—Sir George Newman, chief medical officer, ministry of health of England, gave the second Sir Charles Hastings lecture of the British Medical Association, March 21, on fundamentals of health. The first Hastings lecture was given last year by Sir Berkley Moynihan on "Cancer and How to Fight It." These lectures are given at the medical association's house in Tavistock Square.——The fund that was started as a testimonal two days before the sudden death of Sir Dawson Williams, for many years editor of the *British Medical Journal*, has now been designated as a memorial fund, and the executive committee hopes that it will represent the profession generally. Checks should be made payable to Sir St. Clair Thomson, 64, Wimpole Street, London, W. I., and the envelopes marked "Dawson Williams Memorial." The amount contributed up to March 10 was £733.

Conference on Rheumatic Diseases.—The discussion at the conference on rheumatic diseases to be held at Bath, England, May 10-11, will include rheumatic fever, chronic multiple arthritis, fibrositis and degenerative arthritis. Sir George Newman, chief medical officer of the ministry of health, will give the president's address. The presidents of the sessions will be Lord Dawson of Penn, Sir Humphry D. Rolleston, regius professor of physic, University of Cambridge, and Sir Edward Farquhar Buzzard, regius professor of medicine, University of Oxford. The social aspects of the subject will be considered at the first session, causation at the second, and treatment at the third. There will be delegates from Holland, Sweden, France, Germany and Belgium. The United States will be represented by Dr. Ralph Pemberton, Philadelphia, whose subject will be "Local Tissue, Suboxidation in Infective Arthritis," and Dr. Homer F. Swift, New York, on "Rheumatic Fever." The mayor will give a reception to the delegates, Thursday evening. The annual meeting of the balneological section of the Royal Society of Medicine will meet following the conference. The medical secretary is Dr. Vincent M. Coates, 10, Circus, Bath, England, to whom persons desiring to take part in the discussion should send their names and subjects not later than May 5.

Foreign Letters

LONDON

(From Our Regular Correspondent)

March 17, 1928.

Two Hundredth Anniversary of the Birth of John Hunter

The Hunterian Society of St. George's Hospital (to whose staff John Hunter belonged) in conjunction with the Hunterian Society of London has celebrated the two hundredth anniversary of his birth. Sir Humphry Rolleston delivered an address in which he said that the four most famous names in British medicine were William Harvey, Thomas Sydenham, John Hunter and Joseph Lister. Harvey and Hunter should be linked in grateful recollection; both were experimental philosophers. Hunter was the first to describe the circulation in insects and crustaceans. Like Harvey, he studied the earliest stages of life and was responsible for the dictum that "embryology teaches the steps by which the higher forms in a group of animals have been evolved from the lower." The more he was known the more wonderful did he seem. As the years went by his intellectual stature seemed to grow grander and grander: anatomy, physiology, pathology, surgery and biology in its widest sense found him their master.

The Health of the Army

The report on the health of the army for 1926 has just been published. The health of the troops at home and abroad continued to be satisfactory. Although there was a slight increase in the admission rate as compared with the previous year, the invaliding and constantly sick rates showed further reductions, while the death rate remained the same as in 1925. Investigations are still proceeding with a view to reducing the wastage due to diseases of the middle ear, which remains the principal cause of invaliding. The number of men constantly in hospital was 1,217.79 in 1925 and 1,154.95 in 1926. The number of working days lost to the army at home on account of disease was 444,493 in 1925 and 421,557 in 1926. At home local injuries, diseases of the digestive system, diseases of the liver, and inflammation of the tonsils are responsible for the largest number of admissions throughout the year. Influenza also has a high admission rate, but it is confined to the first three or four months of the year and consequently has a relatively low constantly sick rate. Although the admissions for venereal diseases are not so high, the constantly sick rate for these diseases is second only to that for local injuries. The most prevalent diseases abroad (except India) are similar to those at home, except that venereal diseases occupy a relatively higher position. Influenza is not markedly prevalent, and sand-fly fever shows a high admission rate from May to October.

Report on the Treatment of Pernicious Anemia by Liver Extract

The liver treatment of pernicious anemia, introduced by Minot and Murphy, has been extensively adopted in this country with great success. Because of the difficulty which some patients have in taking the requisite quantity of liver, Cohn and others have prepared an extract of liver which contains in small bulk, it is claimed, the unknown substance which produces the amelioration. The Medical Research Council has been investigating the subject in its laboratories and a modification of the American process has been found to yield satisfactory results. Manufacturing firms were invited to send, for clinical tests, samples of liver extract made by them according to this process. These were distributed to various hospitals, from which reports on thirty-four cases treated have been received. The activity of the extracts was judged by an early increase in the reticulocyte count with general improvement, as in the American work. Of the thirty-four cases, all but two gave a good response. In twenty-three of the cases all other causes for the improvement than the administration of the extract were excluded. In the remaining nine the response was equally good, but the possibility of natural remissions or of the influence of other treatments, such as previous administration of liver, rendered any conclusion less certain. A daily dose of extract corresponding to one-half pound of liver generally produced a clear rise in reticulocytes culminating about the twelfth or fifteenth day; double that amount gave an earlier reaction, culminating at the fifth day. The remote benefit of cases treated with the smaller dose over a longer period is illustrated by a case in which the red count rose from 750,000 to 5,000,000 in thirty-four days. The question of deterioration of the extract on keeping has not yet been determined.

Industry and Medicine

A joint meeting of the council of industrial medicine with lay representatives has been held. The aim of the council is to investigate any cause of industrial invalidity, to prevent its onset, to arrest its progress and to effect a cure. Dr. D. A. Coles, chairman of the council and medical officer of the Gas Light and Coke Company (which supplies all the gas to London north of the Thames) said that many millions of money was wasted annually in avoidable diseases and accidents. The council's object was to act in harmony with all existing associations. It did not wish to add further financial burdens to industry. A skilfully devised scheme should not result in increased expenditure but in saving. Prof. E. L. Collis, vice chairman of the Council, stated that the best method was to organize treatment from the start and follow it right through. Only in this way would there be a minimum of the loss of services of skilled workmen. Compensation claims would be greatly reduced by well organized clinics. It was a paying proposition which no industrial firm could afford to neglect. Major General Sir P. Wilkinson (Order of St. John of Jerusalem) mentioned the activities of the railway companies in providing men capable of dealing with accidents; more than 40,000 men had been trained on the railways. On the motion of the chairman a resolution was carried approving the plan of cooperation between industry and medicine and promising support to any scheme in that direction.

Half a Million Cases of Leprosy in India: The Cure of Leprosy

The annual meeting of the British Empire Leprosy Relief Association has been held at the India office. The report noted the 16,000 miles tour of the secretary in British East and Central Africa; the provision of grants for the building of treatment centers in Africa, and the widespread distribution of drugs and seeds, in particular the new preparation of hydnocarpus oil. Branches of the association have been established in various parts of the empire and a great fund has been formed in India for the furtherance of leprosy work there. From the latest survey it is estimated that there are more than half a million cases of leprosy in that country, whereas the original estimate of the association was that there were only a quarter of a million in the whole empire. Sir Leonard Rogers, the authority on tropical diseases and honorary medical secretary of the association, said that there was most complete evidence that early cases of leprosy could be cured. The leading authorities in Calcutta and at Culion in the Philippines were agreed that nearly every early case of leprosy was curable. Within the last few years nearly a thousand patients had been released on parole at Culion. The South African reports showed that, although segregation

was compulsory, the settlements had little experience with early cases. This was owing to the tendency to concealment which was so unhappy a feature of enforced segregation unalleviated by outdoor treatment in the early noninfective stage. They now had a cheap, painless and efficient remedy in sodium hydnocarpate at a cost of $0.50 for a year's treatment. The association had sent out more than 100,000 doses in the last few months and would far exceed that number this year. Several thousand hydnocarpus plants had been grown from seed sent out by the association, and in a few years most of the British possessions affected would have their own supplies of the oil. In countries sufficiently advanced to carry out the simple plan of examining the households and close contacts of all lepers every six months for five years, 80 per cent of probable infections could be detected and cleared up in the early stages.

The Compulsory Treatment of Venereal Disease

In previous letters a drastic act for the compulsory treatment of venereal disease in Australia was described. So far there has not been compulsion in Great Britain. But the Edinburgh corporation is promoting a bill in parliament to give the health officer power, when informed by a physician or other person that an individual is suffering from venereal disease and liable to infect other persons, to require him or her to submit to or to continue treatment by a physician at a treatment center. The Edinburgh corporation is thus attempting to obtain compulsory powers instead of relying as heretofore on the purely voluntary scheme of treatment. This bill has aroused considerable opposition among various social organizations, particularly women's organizations. In a joint letter to the *Times*, representatives of these organizations oppose the bill on the following grounds: 1. The present method is working, with constantly improving willingness of patients to undergo treatment. The fact that it is confidential has been the strongest factor in inducing patients to put themselves under treatment. In Edinburgh the venereal disease rate is one of the lowest in the British Isles and the percentage of defaulters has fallen from 45 to 29 per cent (these figures include not only defaulters proper but also those whose treatment was discontinued on account of death, removal or transference to a private physician). Compulsion will create the impression that the treatment is no longer confidential and have an effect in deterring infected persons from seeking the clinics in the earlier and more curable stages. 2. The adoption of the proposal would compel physicians to break the confidence of their patients. One of the present regulations runs: "It is essential that each patient attending for diagnosis or treatment shall be assured that, although his home address shall be kept for reference, it will never be communicated to others. Such a pledge should be set aside, if at all, only after a full inquiry as to the effects of the proposed scheme." It is also argued that Great Britain and Holland, both under the voluntary system, are at least as successful in bringing infected persons under treatment as any country using compulsory powers.

The Danger of "Atophan"

"Atophan" is a proprietary brand of cinchophen manufactured in Germany and extensively advertised and used in this country in the treatment of rheumatism. The advertisements give no indication of danger, but several fatalities have been recorded. The following case has just been the subject of a coroner's inquest: A woman, aged 55, died in a hospital from acute yellow atrophy of the liver. As she had been taking "Atophan" the physicians attending her informed the coroner. Their attention had been called to the fact that acute yellow atrophy of the liver followed administration of the drug. They were unable to prove that the drug caused the disease, and, while not wishing on this ground to refuse a death certificate, they thought it best to inform the coroner. One physician gave evidence that he prescribed "Atophan" for the deceased, to be taken three times a day for neuritis for three weeks. The coroner said that he had been to a pharmacist's shop and was able to purchase without difficulty a quantity of "Atophan tablets." The physician said he did not think it advisable that people should take as much as they chose. He had a suspicion that even in medicinal quantities "Atophan" might cause acute yellow atrophy of the liver and he was beginning to doubt whether it was a safe drug, though the firm that produced it had a deserved reputation and it was used extensively by the medical profession. Two months ago a case was reported at the Liverpool Medical Society in which acute yellow atrophy of the liver apparently was due to "Atophan" treatment. In 1926 Dr. Langdon Brown, physician to St. Bartholomew's Hospital, uttered a caution in the *British Medical Journal* on cinchophen derivatives. He had seen two fatal cases of toxic jaundice following the use of "Atoquinol" in rheumatoid arthritis and knew of several others. In a subsequent issue of the *British Medical Journal* Sir William Willcox, the toxicologist, said that he had no doubt as to the capacity of these preparations to produce toxic jaundice. He had seen in consultation three cases of toxic jaundice following administration of cinchophen in ordinary doses by the mouth, no doubt the direct result of the toxic action of cinchophen on the liver. One was fatal. He attributed the toxic action to a quinoline nucleus. Cinchophen is a derivative of quinoline, and "Atophanyl" is a combination of the sodium salts of cinchophen with salicylic acid.

British Spas

At the annual meeting of the British Spas Federation, the necessity for strong combined propaganda on behalf of the British resorts, not only by the spas but by all interests affected, especially in America and the overseas dominions, was one of the many important points discussed The efforts of the foreign spas in this direction were reported and plans were made which, as they can be developed, will bring the attractions of Britain to the notice of travelers from these countries who have heretofore had their minds filled only with the propaganda of the continent.

Danger of Tetra-Ethyl Lead in Gasoline

Considerable discussion is going on in this country concerning the possible danger from the use of tetra-ethyl lead in gasoline, which compound has been imported from the United States. In the house of lords, Lord Buckmaster moved a resolution that the government should set up a committee to advise as to the public danger that may arise. Sir William Pope, professor of chemistry at Cambridge, wrote to the *Times* on the dangers of lead poisoning in garage workers who wet their skin with such gasoline, or splashed their clothes, or breathed an atmosphere tainted with the vapor. Professor Baker, president of the Chemical Society, followed, stating that Professor Pope had understated the case, as tetra-ethyl lead does not act on the body as an ordinary lead poison but has a specific and much more harmful action. It passes rapidly through the skin, is absorbed by the blood, and causes severe nervous trouble. Replying for the government, Lord Salisbury said that they fully recognized the risk attaching to tetra-ethyl lead and proposed to deal with it. But that did not mean that it must not be manufactured. Many highly dangerous things were manufactured. As a matter of fact, tetra-ethyl lead was not manufactured here but in the United States. A moment of special risk occurred when, after importation, it was blended with gasoline, and this was receiving the attention of the government. Up to now no case of poisoning had occurred in this country. He then quoted the negative conclusions of

the United States Public Health Service as to the danger. The government of this country would appoint a committee to investigate the matter. In the *British Medical Journal*, March 10, a well known physician, Dr. F. C. Eve, condemns tetra-ethyl lead on several grounds. He does not think that the problem can be solved by chemical and medical investigation. No investigators can report whether slow slight deterioration of arterioles or of nervous tissue occurs in the course of years in human beings. That is the main danger to the public, and, speaking medically, he would say that it is certain to occur to some unknown extent. Urbanization and civilization already have sufficient drawbacks to health—for example, the smoke pall—without stupidly allowing another unseen, unrecognizable, insidious horror in our garages and in our streets, polluted with exhaust gases containing lead. Switzerland has made lead gasoline illegal and we should do the same provisionally.

PARIS

(From Our Regular Correspondent)

March 7, 1928.

The Prenuptial Certificate

At the instance of Professor Pinard, who is a member (from Paris) of the chamber of deputies, a bill has been introduced which would make compulsory, before marriage, the presentation of a prenuptial certificate, attesting, after an examination by a qualified physician, that the parties to the marriage contract are not affected with any contagious or hereditary disease of a nature to be harmful to the race. This measure has been proposed by all the congresses on eugenics, and has already been introduced in some countries. The announcement of this bill was received with great approval by the medical press, but, from the time it was first presented in parliament, it has met with more or less serious opposition, and it has been withdrawn provisionally from the program of the chamber and has been returned to the committee that investigated it and presented it, for reexamination.

The Encumbering of Paris Hospitals

M. Ambroise Rendu, chairman of the fifth committee of the municipal council of Paris, who called attention to the encumbering of Paris hospitals by provincial patients and patients of foreign nationality, and who asked the minister of labor to propose the appointment of an interministerial commission to consider the levying of a tax on foreigners, has received from M. André Fallières a negative response. The minister of foreign affairs, who was consulted on the subject, opposed, by reason of the labor and welfare treaties concluded with the countries supplying man power, the suggestion that his department be represented on the proposed commission. However, M. André Fallières informed M. Ambroise Rendu that he had instituted an inquiry among the departments to ascertain how many beds are available in houses of refuge and provincial hospitals, in order to send to those institutions as many as possible of the patients and the aged persons who now encumber the hospitals of Paris. One solution proposed by M. Rendu, which would be immediately applicable, would be to send to the houses of refuge in the provinces all the chronic invalids and aged persons who are not natives of Paris or who have not been residents for at least ten years. Such subjects represent more than one third of the total number hospitalized. Theoretically, the towns and villages from which they originated (especially, when they have left them recently—and often they have come to the city solely on account of their disease) should reimburse the Paris administration of public charities for the outlay that they have caused. As a matter of fact, such indemnification is seldom accomplished.

In Memory of Professor Gilbert

In the Hôpital de l'Hôtel-Dieu in Paris, a marble medallion in the likeness of Professor Gilbert has been placed on the wall of the first floor gallery leading to the department of the medical clinic where the expert clinician taught for more than twenty years as the successor to Dieulafoy.

Changes in the Medical Inspection of Schools

At a recent meeting of the ministerial council, the government authorized M. Edouard Herriot to introduce into the chamber of deputies a bill providing for the reorganization of medical inspection in the public schools. In his speech he stated that regular medical examinations are unknown at present except in a few departments. The only cities having a truly complete organization are Paris and Lyons. The bill to be submitted to parliament would make compulsory what is now only optional. The school medical inspectors would devote themselves solely to the task of medical inspection, and would not be permitted to attend to a practice of their own, nor could they take the places of physicians in attendance on families. It will be necessary, therefore, to allow them sufficient compensation to assure them an independent living.

TURKEY

(From Our Regular Correspondent)

March 1, 1928.

Compulsory Medical Service

To insure medical service in the provinces and especially in the eastern part of the country, a law was passed in 1923 according to which the new graduates of the medical school are required to serve as health officers for a term of two years. For this period for service in the East the salary is doubled. At the completion of their term most of these young health officers make application for internships or assistantships at the university hospital, while others go to the government and municipal hospitals of Constantinople or other big cities. A few prefer to stay in the East; others ask to be transferred to a western province. Only those whose health condition does not permit of strenuous work in a severe climate are permitted to serve in a less remote region. A special committee is appointed, the names of the places in which vacancies have to be filled are written on small slips of paper, and the slips are rolled and well shaken up in a bag. Each graduate picks a slip and is required to fill the vacancy named. There is also a three years compulsory service for those graduates who have gained their medical education at the expense of the ministry of public health. This scheme has shown good results. There has been a check on communicable diseases, the general death rate has been lowered, and a somewhat lowered maternal and infant mortality is noted. There is great need for physicians, especially in the remote and lonely places of the East. In one of the out of the way places where for years there had not been a physician the new health officer was actually auctioned off one day.

Occurrence of Necator Americanus in Turkey

In recent years infestation with *Necator americanus* has been diagnosed in patients coming to Constantinople from the Caucasian frontier and the Black Sea provinces. The first case was diagnosed in 1923 by Dr. H. Wassif Bey, director of the medical department of the municipal woman's hospital. His patient was an anemic woman from Trebizond. In 1924 several other cases were noted in patients who were living in Constantinople but who were natives of the provinces. In the same year Prof. Dr. Akil Mouchtar Bey of the University Hospital found the eggs of the parasites in the feces of a

patient coming from Treboli, and at the necropsy of this patient the parasites were found in the intestine. At the Gulhané Hospital, where army physicians receive their postgraduate training, Prof. Dr. Tevfick Salim Pasha discovered the parasites in several patients, also natives of the black provinces. During the last two years, cases of infestation with *Necator americanus* have been on the increase. At the municipal woman's hospital 145 cases were noted, at the university hospital 45, at the Gulhané Hospital 15, at the municipal men's hospital 30, and at the charity hospital 10, thus bringing the number up to 245. In none of these cases was ancylostoma (Dubini) found. It is most probable that contamination of the soil occurred in the World War when the Russian army advanced as far as the Black Sea provinces. Later for a short time Russian workmen commenced to build highways and railroads, employing civilians and soldiers returning from Syria, and prisoners of war returning from other infected foreign regions. The ministry of public health has made investigations in order to formulate a program for combating the disease.

Government Free Dispensaries

In 1924 the ministry of public health instituted 150 free dispensaries well distributed over the country. There are five emergency beds in each of these dispensaries. The health officer or a physician connected with the municipality is in charge. He is assisted by a trained orderly and a midwife. Toxin-antitoxin and neoarsphenamine are administered and vaccinations are done in the dispensaries. At first the people did not avail themselves freely of the services of these dispensaries; in 1926, however, 294,807 cases were treated. Especially in the malaria, syphilis and trachoma regions these dispensaries have been a means of advocating earlier treatment and of propagating the idea of prevention. A widening of the sphere of activities, especially in the eastern provinces, is under consideration.

ITALY

(From Our Regular Correspondent)

Feb. 1, 1928.

The Congress of Hygiene

Under the chairmanship of Prof. Achille Sclavo of the University of Siena, the Associazione italiana per l'igiene held recently in Rome its fifth national congress. In his opening address, Professor Sclavo emphasized the need that, with the increase of the population, the equilibrium shall not be disturbed to the damage of the agriculturists. It is necessary, therefore, to create for the agriculturists the best possible living conditions. Professor Abba announced that the "Crusade Against Tuberculosis," of Turin intends to create a foundation dedicated to Professor Pagliano, for the purpose of offering prizes for hygienic housekeeping. Professor Sclavo presented a paper on the subject "Hygiene and Labor." The speaker emphasized the hygienic value of the recent Italian legislation with respect to labor, particularly the "charter of labor" so called, which is based on the principle that labor is the social obligation of all citizens, and that, from this point of view, all citizens are under the control of the state. He called attention to the harm that results to those who labor under unfavorable conditions, and affirmed the necessity of intensifying the hygienic propaganda among the people in order that it might learn to protect itself. It is necessary, too, to organize the eight hours of leisure after labor, to prevent their becoming the source of injury to health. In this connection the speaker noted the good effects already visible from the work of the Opera nazionale dopolavoro, which supplies healthful recreation for workers, endeavoring to adapt the form of recreation to the nature of the daily task. He discussed more particularly the Dopolavoro Ferroviario (the "after-work" society of the railway employees), and in closing expressed the hope that there might be a unification of the services for the hygienic protection of workers.

Professor Di Vestea referred to the case of the miners of Monte Amiata, among whom cases of mercurialism have become more frequent since the introduction of the eight-hour labor law, for the reason that the leisure hours have been spent in harmful pursuits.

At the suggestion of Professor Canalis, the congress passed a resolution that the postgraduate school of hygiene in Rome be reestablished for the preparation of officers for the administration of health services.

Professor Pecori, director of the governmental bureau of health in Rome, presented a communication on "Governmental Provisions for the Prophylaxis of Typhoid," mentioning the recently adopted regulations concerning compulsory antityphoid vaccination for certain classes of the civil population, and pointing out also the opportunities that the use of the vaccine affords also those persons for whom it is not compulsory.

Professor Abba, director of the bureau of health of Turin, discussed the subject of "The Milk Supply." He pointed out how much had been done thus far in the various cities of Italy to regulate this service, and announced that the general management of the public health service is preparing suitable regulations governing the matter.

Professor Pulgher and Engineer Rodella of Genoa took up the topic "The Disposal of Garbage" and reached the conclusion that, at the present stage of the question, the best method appeared to be to grind it and to use it as fertilizing material.

Dr. Escalar of Rome spoke on the subject "The Rural School and the Antimalaria Crusade in the Agro Romano" and pointed out that in the schools of the Agro Romano the pupils are instructed how to protect themselves against malaria.

The Mental State and the Psychoses of Lepers

At a meeting of the Società fra i cultori delle scienze mediche e naturali in Cagliari, Professor De Lisi, director of the Psychiatric Clinic of the University of Cagliari, referred recently to the results of certain investigations that he carried out on cured patients of the leprosarium of Cagliari. On the basis of his observations and an examination of the literature on the subject, the speaker denied the existence of leprous psychoses but emphasized the relative frequency in leprous patients of episodes of thymic dysfunctioning and psychogenic depression. Hence, the causes of mental disorder in leprosy are, according to Professor De Lisi, to be ascribed to factors of a psychic order, and are associated only indirectly with leprosy, the principal disease.

The Radiotelephone in the Hospitals of Milan

The Unione radiologica italiana has taken the initiative to provide the various hospitals of Milan with a radiotelephonic outfit. Near each sick-bed there will be a receiving instrument, with which individual telephones may be connected. The experiment when tried in other hospitals has given good results, and a decrease in the demands of the patients for the assistance of the nurses has been noted during the hours of transmission.

Commission on Food Problems

A commission on food problems (Commissione per Studi sull'Alimentazione), composed of university professors, has been appointed. The headquarters of the commission will be in Milan, and it will include Professors Devoto, Valenti, Foà, Bayla, Molore, Cattaneo, Rondoni, Supino and Gabbi.

Regulation of Fish Canning Processes

With the publication of a decree in the *Gazzetta Ufficiale*, regulations governing the preparation and canning of fish food products (fish, roe, mollusks, crustaceans) have recently been promulgated. Canning processes may be carried on only in quarters that meet the necessary hygienic requirements. Workers engaged in such processes must be free from infectious and communicable diseases. The canning process must assure the hygienic preparation, the sterilization and the adequate conservation of the product, and must conform to the provisions of the existing sanitary laws. Samples of the products must be collected at least once a year and sent for analysis to a chemical and bacteriologic laboratory authorized by the state.

Canned fish products imported into Italy must bear a sanitary certificate to the effect that the canning process was carried out under hygienic conditions and that the product concerned has been subjected to a sterilizing process.

Postgraduate School for the Study of Tuberculosis

Professor Maragliano, senator, has established in Genoa a postgraduate school for the study of tuberculosis, of which he will be the director. In this school, physicians and students of medicine may take postgraduate courses at any period of the year that is convenient for them. The activity of the school will consist of practical work, diagnostic and therapeutic, at the bedside of the patient, together with laboratory practice. The school will be located in the new hospital of S. Martino d'Albaro, in Genoa.

VIENNA

(From Our Regular Correspondent)

Feb. 22, 1928.

Conflicts in the Medical Profession

Recent weeks have endangered to a high degree the unity of the physicians of Vienna. As a result of the increasingly difficult economic situation among physicians, two opposing groups have taken shape: first, the group composed of *kassenärzte*, or panel physicians, who are employed by the *krankenkassen*, or health insurance societies, and receive a fixed monthly salary (about 1,000 physicians in Vienna), and second, the group of independent practicing physicians, who have no positions with fixed salaries (likewise, about 1,000 to 1,200 physicians). A third group consists of specialists, hospital physicians, and physicians in public service (the police, the municipality, the state—about 2,000), who gravitate sometimes to the first and sometimes to the second group, depending on their personal affiliations. When recently the government and the political parties made an attempt to organize a new *krankenkasse* with physicians to whom a fixed salary would be paid and which would take in certain new strata of the population—not the poorest classes but the civil servants so called, and the employees of banks and financial institutions, the general organization of the physicians refused to consider the proposal and forced its president, who favored the plan, to resign his office. A new president of the organization was elected following the hottest election campaign known in the history of the organization. Dr. Weinländer, a representative of the so-called *freie richtung*, was chosen president, but only by a slight majority, and now the opposing group (the panel physicians) is threatening to leave the organization. Thereby the possibility of establishing new *krankenkassen*, against the will of the medical profession as a whole, would be brought dangerously near. The sober-minded elements are putting forth every endeavor to prevent a split in the organization, which would disrupt the unity of the medical profession, as it is evident that otherwise both groups of the medical body would suffer harm. The opportunities for developing an independent practice are already very much restricted. On the other hand, the fixed salaries paid to occupants of posts under the control of the *krankenkassen* are seldom sufficient for the maintenance of a worthy standard of living. Therefore, an influential portion of the medical profession is trying to get the contending groups to unite on a common basis and to agree that the *krankenkassen* shall accept only such members whose monthly income does not exceed a certain amount. The proposed limit of monthly income that would entitle a person to become a member of a *krankenkasse* with physicians receiving a fixed salary is placed at from $100 to $120. Such a provision would leave at least a portion of the population as supporters of independent practices without the so-called social indications of cheapened medical assistance being confined to too small a number. Whether these endeavors will be successful will be revealed soon.

The Age Distribution of the Working Classes in Austria

The statistical bureau of the ministry of labor has published material on birth rates, nonemployment, and the turnover among the wage-earning classes. Up to 1927, the oncoming supply of man power was entirely normal, and the dropping out of aged workmen was more than compensated for by the accretions of young blood. In 1928, however, the new supply of man power will be, for the first time, much below normal, so that this circumstance alone will effect a diminution of the nonemployment. In the subsequent years the supply of man power will be still further reduced. With a total population of 6,500,000, there are about 1,200,000 industrial workmen, or nearly 20 per cent of the population. In the four prewar years 1911-1914, the total number of living births for Austria was 491,385, or an average of about 123,000 annually. In the first year of the war, the total births dropped to 111,800; in the next four years the total number of births was 293,241, or an average of under 74,000 a year. The lowest total was reached in 1918 (only 66,551 births). That is little more than half of the births of the prewar period. The loss in population, therefore, for the first years of the war amounts to from 50,000 to 60,000 a year, and, for the last year of the war, to 66,000; for the four war and the two postwar years to a total of 240,000. The loss in terms of industrial workmen amount thus to nearly 50,000 (one fifth). In reality, however, the loss is much greater, because, first, the mortality of the children born during the war was higher than normal, and, secondly, many persons who would otherwise have become industrial workmen were compelled to take up other work for lack of employment (employees, government clerks, the liberal professions). Therefore, marked changes in the labor groupings are bound to take place, the older age groups prevailing as compared with the younger age groups. From the survey of the births and deaths in Vienna, it is apparent that the original population of the city is rapidly declining. The total number of deaths daily in Vienna is between seventy and eighty, which gives a monthly total of more than 2,100; about 250 of the bodies are cremated. In 1926 the total number of deaths in Vienna was 25,380 as against a total in births of only 23,078. In the first quarter of 1927 the excess of deaths over births was 919, so that 4,000 will be the approximate total for the year 1927. Comparisons show that the number of deaths is almost constant, though there is a slight downward tendency, but the number of births is decreasing rapidly. Up to 1923 the birth rate did not vary much, but since that year there has been a rapid decline in Vienna. It is only through the immigration from the rural sections of the country that the population of Vienna remains fairly constant. It is observable, however, that slowly but surely the character and the quality of the inhabitants are changing. Whereas formerly the growth of the city of Vienna was brought about through

the immigration of large numbers of the various nationalities of Austria-Hungary—Slavs, Czechs, Poles, Hungarians, southern Slavs, Jews, Italians and Roumanians—now only the inhabitants of the Alpine provinces of Austria take up their abode in Vienna. This brings about a preponderance of a single race, or tribe, in the metropolis, and explains the fall in the birth rate. The old Viennese, whose qualities and type of mentality were the result of the blending of the best races of Europe in Vienna as the great "melting pot," are slowly but surely dying out; in their stead the Alpine dwellers are coming down into the lowlands, where they are being slowly assimilated.

The Repair of a Femoral Artery

At one of the recent sessions of the Vienna Gesellschaft der Aerzte, Dr. Demel, an instructor in the university, introduced, from the Eiselsberg Klinik, a man, aged 49, who, in 1918, had been struck, during battle, in the right femur by a pistol bullet. The patient was not examined in a larger surgical hospital until three weeks later, at which time, in connection with the removal of the projectile, a portion of the femoral artery 2½ inches long had to be resected. As it was not possible to bring the two cut ends of the artery together, the surgeon (Dr. Demel) decided to resect 2½ inches from an adjoining vein and by transplantation fill out the gap in the artery. On account of the valves in the vein that would have interrupted the circulation, the portion resected was of course sutured to the artery in a reverse direction. Immediately after the operation, the pulse could again be distinctly felt over the peripheral portion of the femoral artery. The patient has had no further trouble from the injury. He engages in all kinds of sport, and has great endurance as a pedestrian. The circulation in the leg is apparently perfectly normal down to the toes. The inserted portion of vein did not become distended after the manner of an aneurysm.

BERLIN

(From Our Regular Correspondent)

March 10, 1928.

Carbon Monoxide Poisoning from Gas Bathroom Heaters

According to the statistics given by Sanitätsrat Dr. Knorr of Berlin, in the *Deutsche medizinische Wochenschrift*, there have been thus far twenty-eight cases of carbon monoxide poisoning from the use of gas bathroom heaters. There were thirty-four persons involved, and sixteen of these died from the effects. In all cases the poisoning was due to carbon monoxide fumes and not to illuminating gas. There are two circumstances that explain the recurrence of such accidents, which make it difficult to prevent them. First, it is generally believed that the combustion products of illuminating water gas are entirely harmless. The fact is overlooked that the quantity of carbon monoxide developed in heating the necessary amount of water for a full bath is considerable. For a full bath 180 liters of water is required, the heating of which necessitates the burning of 1⅓ cubic meters of gas, from which ⅔ cubic meter of carbon monoxide is developed. Second, there is a prevailing view that accidents with gas bathroom heaters are due to gross carelessness or to suicidal intentions. Frequently, too, deaths in bathrooms have been interpreted as due to fainting fits or to apoplectic attacks. Even the technicians were slow in recognizing the danger of gas bathroom heaters; but now they are endeavoring to reduce the number of accidents by improving the ventilation arrangements. According to the investigations of Dr. Kramer, the presence of a ventilation pipe does not always protect against poisoning, and sometimes, after a heater has been used for a long period without untoward incident, the ventilation mechanism will get out of order and the life of the user will be menaced. To remove all danger, it is not sufficient that the heater shall be supplied with a good ventilation mechanism; also the size of the bathroom and the conditions of ventilation must be taken into account in each individual case. If the bathroom is small, adequate ventilation must be provided from some source. If the door or the window cannot remain open, there must be a ventilator in the door. The best means of preventing poisoning from the use of gas bathroom heaters would be to confine the combustion process to a closed combustion chamber, so that the gas fumes have no access to the bathroom.

Psychotherapy As a Profession

"Psychotherapy as a profession" was the subject of a recent address delivered before the Berliner Medizinische Gesellschaft by Dr. Binswanger, the son of the well known former director of the Nerven-Klinik in Jena. Two generations ago, psychotherapeutists were unknown. At that time, psychotherapy was not yet regarded as a specialty. The physician of that day considered it just as one of his many tasks. But soon medicine became split up into countless subjects, or specialties. Psychotherapy as a subject of research continued of course to exist, and thus we have today our psychotherapeutists. This was a necessary innovation, for psychotherapy demands of the person who would essay to practice it special qualifications and a special knowledge that every physican as such cannot be at once assumed to possess. Psychotherapy is more than mere "transmission," inoculation of the feelings, or imitation, and the person who practices it is expected to know considerable about interhuman and likewise endohuman relationships. Any attempt to give psychotherapeutic treatment requires "deep research into the inner mental life-history of the patient." The patient's whole life-history must be "reconstructed," and—what is more—the patient himself must learn to give a practical reproduction of his life. From this point of view, the realm of psychotherapy breaks through the previously staked confines of medicine; for "the historical exegesis of an individual's whole life," as Binswanger expresses it, requires a profound knowledge of social conditions and structures. In fact, the comprehension of psychophysical relations necessitates philosophical training, and the ultimate objectives of psychotherapeutic treatment come under the head of ethics.

Relative Incidence of Suicide Among the Various Religions

It is a well known fact that in many countries, such as Germany, Switzerland, Hungary and Holland, the Catholics have a lower incidence of suicide than the other confessions. In Prussia (1922-1924) there were 2.68 suicides per 10,000 Protestants, as compared with 1.17 for the Catholics; in Bavaria, 2.22 as against 1.10; in Baden, 2.44 in contrast with 1.41. The suicide statistics of the German cities show a similar relationship. The cities with a predominant Catholic population have only one third as many suicides as the cities with a predominant Protestant population. There are, however, also a number of Protestant cities with a low or only moderately high incidence of suicide.

Marriages

EDWARD TALMAGE WEST, Johnson City, Tenn., to Miss Margaret Barker of Bristol, January 3.

VICTOR G. VECKI, San Francisco, to Miss Bessie Gallagher of Berkeley, Calif., February 26.

VERA L. COLLINS, Yonkers, N. Y., to Mr. Frederick D. Wade of New York, March 18.

CLARENCE J. BERNE, Hartley, Iowa, to Miss Esther T. Van Cleave of Adel, January 4.

LOUIS RASSIEUR to Mrs. Lillie W. Wehmiller, both of St. Louis, March 19.

Deaths

Samuel Dodds ✠ Logansport, Ind.; Jefferson Medical College of Philadelphia, 1889; member of the American Psychiatric Association; medical superintendent of the Logansport State Hospital; formerly member of the Cairo (Ill.) Board of Education and coroner of Alexander County; at one time on the staff of the Jacksonville (Ill.) State Hospital; aged 61; died, March 28, of carcinoma.

Adam Stephenson MacKnight ✠ Attleboro, Mass.; Jefferson Medical College of Philadelphia, 1888; formerly on the staff of the Fall River City Hospital; at one time health officer of the Southeastern Health District; resident physician and superintendent of the Bristol County Tuberculosis Hospital; aged 69; died, February 27.

Robert A. Macgregor, Jackson, Mich.; University of Western Ontario Medical School, London, Ont., Canada, 1897; member of the Michigan State Medical Society; physician at the Michigan State Prison; aged 50; died, March 22, of myocarditis, following an attack of typhoid several months ago.

Bruns Pitts Holland ✠ Beaumont, Texas; Medical Department of the Tulane University of Louisiana, New Orleans, 1900; at one time secretary of the Jefferson County Medical Society; formerly on the staff of the Jefferson County Tuberculosis Hospital; aged 49; died, Dec. 31, 1927, of pneumonia.

Chauncey R. Bowen ✠ Almond, N. Y.; University of Buffalo School of Medicine, 1882; secretary of the Allegany County Medical Society; health officer of the consolidated health districts of Almond and Alfred in Allegany County; aged 69; died, February 27, of heart disease.

Shelley Baron Hall, Rock Island, Ill.; State University of Iowa College of Medicine, Iowa City, 1892; formerly president of the staff of St. Vincent's Hospital; at one time county physician; aged 67; died, March 27, of diabetes mellitus and gangrene of the foot.

Frank Waring Lewis, Morattico, Va.; University of Maryland School of Medicine, Baltimore, 1878; division superintendent of schools for Lancaster and Northumberland counties; aged 70; died, February 14, at the home of his son in Richmond, of heart disease.

Barnet Frank, Burlington, Vt.; University of Vermont College of Medicine, Burlington, 1915; member of the Vermont State Medical Society; served during the World War; aged 36; died, recently, at a local hospital, following an appendectomy.

John Barton Quay, Washington, D. C.; Howard University School of Medicine, Washington, 1886; Georgetown University School of Medicine, Washington, 1893; aged 74; died, March 19, of arteriosclerosis and acute dilatation of the heart.

Henry A. Cottell, Louisville, Ky.; University of Louisville School of Medicine, 1872; member of the Kentucky State Medical Association; professor emeritus of clinical neurology at his alma mater; aged 80; died, March 6, of bronchitis.

Foster Gaines Finley, Blountsville, Ala.; Birmingham Medical College, 1913; member of the Medical Association of the State of Alabama; served during the World War; aged 40; died, March 8, of cerebral hemorrhage.

Claude W. Lane, Warren, Ohio; Western Reserve University School of Medicine, Cleveland, 1902; member of the Ohio State Medical Association; aged 51; died, February 25, of pneumonia and cirrhosis of the liver.

Frederick Cornelius Annabel, Elmira, N. Y.; Medical Department of the University of the City of New York, 1889; member of the Medical Society of the State of New York; aged 67; died, March 10, of pneumonia.

Adolphus John Droz ✠ Washington, Iowa; Keokuk Medical College, 1896; formerly on the staff of the Washington County Hospital; aged 53; died, March 14, at the Augustana Hospital, Chicago, of cholelithiasis.

Roscoe Squires Wilcox ✠ Rochester, N. Y.; Cornell University Medical College, New York, 1905; on the staffs of the Highland, Park Avenue, and St. Mary's hospitals; aged 45; died, March 24, of nephritis.

Charles Carroll Waggoner, Los Angeles; University of Michigan Homeopathic Medical School, Ann Arbor, 1907; formerly a practitioner in Pennsylvania; aged 44; died, March 2, of angina pectoris.

Albert Irwin Gilbert, Kewanna, Ind.; Medical College of Ohio, Cincinnati, 1903; member of the Indiana State Medical Association; for many years county coroner; aged 55; died, March 21, of heart disease.

John Henry Bremer, Brooklyn; Bellevue Hospital Medical College, New York, 1897; aged 51; died, March 20, at the New York Polyclinic Hospital, following an operation for carcinoma of the rectum.

William Francis Saul, Montpelier, Miss.; Memphis (Tenn.) Hospital Medical College, 1913; member of the Mississippi State Medical Association; aged 46; was killed, March 26, in an automobile accident.

Harry Edward Coulsan, Akron, Ohio; Western Reserve University School of Medicine, Cleveland, 1924; member of the Ohio State Medical Association; aged 31; died, February 18, of brain tumor.

Arthur Lewis Martin, Naulakla, Va.; College of Physicians and Surgeons, Baltimore, 1891; member of the Medical Society of Virginia; aged 60; died, March 10, of pneumonia, following erysipelas.

Milton McKinstry Norris, New Windsor, Md.; University of Maryland School of Medicine, Baltimore, 1880; formerly member of the state legislature; aged 71; died, March 12, of arteriosclerosis.

Seymour March Van Alstine, Boston (licensed, Massachusetts, by years of practice); aged 82; died, March 19, in the Melrose (Mass.) Hospital, of injuries received when struck by a train.

Robert Phelps Knight, Springfield, Mass.; Medical Department of Columbia College, New York, 1880; aged 75; died, February 2, at the Chapin Memorial Hospital, of carcinoma of the larynx.

Eugene W. Lewis ✠ St. Louis; St. Louis College of Physicians and Surgeons, 1900; aged 50; died, February 18, at St. John's Hospital, of cerebral hemorrhage and chronic nephritis.

William Calhoun Mullins, Fort Worth, Texas; Bellevue Hospital Medical College, New York, 1889; aged 59; died, March 15, of injuries received when struck by an automobile.

William George Lewis, Berea, Ky.; Albany (N. Y.) Medical College, 1897; served during the World War; aged 58; died, February 20, at the College Hospital, of heart disease.

Benjamin Harrison Abrahams ✠ Brooklyn; University and Bellevue Hospital Medical College, New York, 1918; aged 33; died, March 21, at the Jewish Hospital, of lobar pneumonia.

Adolph Tyroler ✠ Los Angeles; University of Michigan Medical School, Ann Arbor, 1894; aged 57; died, February 18, at the Santa Fe Hospital, of uremia and chronic nephritis.

Fremont Hamilton, Brattleboro, Vt.; New York Homeopathic Medical College, 1882; member of the Vermont State Medical Society; aged 70; died, February 23, of carcinoma.

William Henry Regan, Cambridge, Mass.; Tufts College Medical School, Boston, 1906; aged 51; died, March 21, at St. Elizabeth's Hospital, Boston, of cirrhosis of the liver.

David E. Johnston ✠ Moores Hill, Ind.; Medical College of Indiana, Indianapolis, 1900; for many years county coroner; aged 55; died, March 18, of cerebral hemorrhage.

Malcolm E. MacKay, Edmonton, Alta., Canada; McGill University Faculty of Medicine, Montreal, Que., 1905; aged 50; died, January 25, of sepsis following Ludwig's angina.

David McClellan Smith, Newark, Ohio; Miami Medical College, Cincinnati, 1885; member of the Ohio State Medical Association; aged 64; died, March 22, of heart disease.

Washington Fletcher Nichols, Munfordville, Ky.; Louisville Medical College, 1905; formerly member of the state legislature; aged 56; died, March 19, of tuberculosis.

Charles Richard Dudderidge, Winnipeg, Man., Canada; University of Manitoba Faculty of Medicine, 1906; aged 46; died, February 11, at Victoria, B. C., of pneumonia.

Ray Wallace Allen ✠ Jesup, Iowa; State University of Iowa College of Medicine, Iowa City, 1905; aged 49; died, March 14, in a hospital in Waterloo, of meningitis.

George Henry Overholt, Kenyon, Minn.; Albany (N. Y.) Medical College, 1866; aged 85; died, February 23, of valvular disease of the heart and arteriosclerosis.

Robert Norman Shaw, Sexsmith, Alta., Canada; University of Toronto Faculty of Medicine, Toronto, Ont., 1906; aged 47; died, Dec. 4, 1927, of septicemia.

Joseph E. Hurff, Blackwood, N. J.; Jefferson Medical College of Philadelphia, 1881; member of the Medical Society of New Jersey; aged 71; died, March 14.

George W. Gilham, Townsend, Mont.; University of California Medical School, San Francisco, 1881; member of the Medical Association of Montana; aged 67; died, February 23.

Edward Emmett Sweeney, Globe, Ariz.; University of Nebraska College of Medicine, Omaha, 1921; aged 33; died, January 21, at the Gila County Hospital.

Joseph Coke Lawson, Darlington, S. C.; Medical College of the State of South Carolina, Charleston, 1903; aged 52; died, March 25, of cerebral hemorrhage.

Pierson Taylor Spinning, Springfield, Ohio; Miami Medical College, Cincinnati, 1878; aged 74; was found dead, January 27, of acute dilatation of the heart.

George F. Taylor ✠ Baltimore; College of Physicians and Surgeons, Baltimore, 1878; aged 71; died, March 25, of carcinoma of the tongue and stomach.

Harrison Gerald Champlin, Chicago; University of Illinois College of Medicine, Chicago, 1914; aged 36; died, March 17, of chronic heart disease and nephritis.

John H. Mennen, New York; Medical Department of the University of the City of New York, 1881; aged 73; died, February 21, of chronic myocarditis.

Jesse Thomas Myers, Vona, Colo.; Kansas City (Mo.) College of Medicine and Surgery, 1923; aged 36; died, March 17, at Athol, Kan., of nephritis.

Benjamin F. Herr, Millersville, Pa.; Jefferson Medical College of Philadelphia, 1877; aged 75; died, March 2, of chronic valvular heart disease.

Frank C. Drane, Llanerch, Pa.; Hahnemann Medical College and Hospital of Philadelphia, 1888; aged 79; died, March 21, of heart disease.

Herbert Roy Conklin ✠ Tecumseh, Mich.; University of Michigan Medical School, Ann Arbor, 1900; aged 52; died, March 17, of heart disease.

Michael Wiley, Aldrich, Mo. (licensed, Missouri, 1883); aged 82; died, March 10, in a hospital at Springfield, of carcinoma of the stomach.

David M. Houk, Atlanta, Ga.; Atlanta Medical College, 1883; Civil War veteran; aged 84; died, March 1, of bronchopneumonia and influenza.

William B. Thomason, Morgan City, Miss.; University of Louisville (Ky.) School of Medicine, 1878; aged 75; died, March 1, of pneumonia.

William Walter Tucker ✠ Greencastle, Ind.; Miami Medical College, Cincinnati, 1889; aged 61; died, March 16, as the result of influenza.

William D. Turner, Long Beach, Calif.; Eclectic Medical Institute, Cincinnati, 1871; aged 84; died, February 16, of valvular heart disease.

Junius M. Stevens, New York; Homeopathic Medical College of Missouri, St. Louis, 1874; aged 75; died, February 14, of acute myocarditis.

Julius Halpern ✠ New York; University of Tomsk, Siberia, Russia, 1881; aged 68; died, March 24, in St. Luke's Hospital, of carcinoma.

Robert C. Chanonhouse, Richmond, Ont., Canada; Queen's University Faculty of Medicine, Kingston, 1889; aged 61; died in February.

John Weaver, Chillicothe, Ill.; Homeopathic Medical College of Missouri, St. Louis, 1879; aged 76; died, February 25, of heart disease.

Laura A. Calver Clements, Wayne, Pa.; Woman's Medical College of Pennsylvania, Philadelphia, 1890; aged 60; died, February 29.

Aaron Skinner, Ashville, N. Y.; Medical Department of the University of the City of New York, 1877; aged 75; died, February 24.

Charles A. Mallory, Tolono, Ill.; Eclectic Medical Institute, Cincinnati, 1894; aged 70; died, March 14, of cerebral hemorrhage.

Henry W. Bewig ✠ St. Louis; Medical Department of Washington University, St. Louis, 1891; aged 64; died, March 5.

Earl Adam Rogers ✠ Somerset, Ind.; University of Michigan Medical School, Ann Arbor, 1901; aged 49; died, February 27.

Dallas Warren, Detroit; University of Michigan Medical School, Ann Arbor, 1879; aged 78; died, March 4, of heart disease.

Andy Royal, Greenfield, Ill.; Barnes Medical College, St. Louis, 1902; aged 55; died, March 25, of pneumonia.

Bureau of Investigation

ORLANDO EDGAR MILLER

From Curing Rupture, Drug Addicts and Consumptives to "Applied Psychology" and Motion Pictures

The Vancouver (B. C.) *Sun* of March 29, 1928, reported that "Dr." Orlando Edgar Miller was in a cell in the immigration shed and the Canadian Immigration Board was in session to decide whether or not the gentleman should be deported. The name of Orlando Edgar Miller is a familiar one to many of THE JOURNAL'S readers who remember the man's history in the field of crude medical quackery. For the past few years Miller's line has been "applied psychology" and motion picture company promoting.

Miller's history makes an interesting chapter in the annals of contemporary American quackery—medical and otherwise. In the early nineties, Miller was running a "rupture cure" concern, with headquarters in Denver. The thing was a huge financial success, having branches in eighteen states and doing business of over twenty million dollars. In 1896 a grand jury brought in an indictment charging O. E. Miller, together with the president and receiving teller of a Denver bank, with the misapplication of national banking funds. It

RUPTURE
CURED
OR NO PAY.
NO DETENTION FROM BUSINESS.
OVER 10,000 CASES SUCCESSFULLY TREATED.
EXAMINATION FREE.
NO OPERATION.
THE
O. E. MILLER CO.,
OFFICES IN THE LEADING CITIES OF THE UNITED STATES
Suites 1105-1106 Masonic Temple.
Institute: 403 Washington Blvd. CHICAGO, ILL.
PHYSICIANS can secure privilege of handling our Treatment in various cities on percentage basis and otherwise. Write for particulars.

One of O. E. Miller's advertisements in the early 90's, when he was running a "rupture cure."

appears from the indictment that the president of a Denver national bank was connected with Miller in his "rupture cure" quackery—the "O. E. Miller Hernia Treatment Company"—and that, with the aid and connivance of the president and receiving teller of the bank, Miller made out and deposited fictitious checks which were credited to his account and the account of the Miller company. The total amount involved was declared to have been over $70,000. The outcome of the case is thus described in a letter from the United States Department of Justice of the District of Colorado:

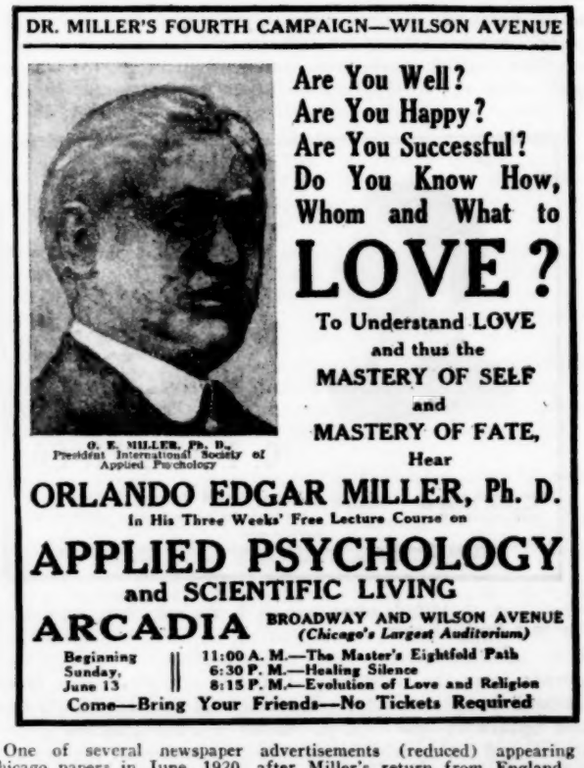
"On January 30, 1897, Orlando E. Miller was convicted in this court under the National Banking Act and sentenced to ten years in prison at Fort Leavenworth, Kansas. The case was taken to the Circuit Court of Appeals and was reversed, and on December 2, 1898, Mr. Miller was released on bond, after having served a portion of the sentence between those dates."

Following this experience O. E. Miller made Chicago his headquarters and, according to the Chicago *Tribune*, exploited his "medicated sand treatment" which was described as a "sure cure for dyspepsia." Later he organized what was described as "a religious and philanthropic movement" known as the "St. Luke's Society," to exploit a "cure" for drug addiction. While alleged to be philanthropic, the movement did not give sufficient indications of being a charitable organization to warrant the issuance of a license by the Chicago Department of Health. The scheme, apparently, paid, for Miller kept moving into more expensive and commodious quarters until finally he rented an old hotel as a sanitarium.

Then, when he had 150 persons in the building, there came a fire; thirteen of the inmates perished.

Miller's next venture was a combination "university" and "sanitarium," which was floated at a suburb of Chicago—Glen Ellyn. The institutions were known as "Ruskin University" and "Ruskin Sanitarium," respectively. Orlando E. Miller was "General Secretary" of the Ruskin University Alliance, "Lecturer on Eugenics" at the "University" and "Professor of Sanitary Science" of the "Ruskin Training School for Nurses." It seems that it was from Ruskin University that Miller obtained his "Ph.D." degree. The Ruskin Sanitarium was devoted to the treatment of "Drug Addicts, Nervous Cases, Rheumatic and Kidney Troubles." Finally the newspapers reported that the unfeeling town council of Glen Ellyn had fined Miller $100 and given him ten days in which to leave town.

Then came Miller's real *pièce de résistance*, a "consumption cure" known as the "International Institute for the Treatment of Tuberculosis." Tuberculous patients were approached by the agents of the "institute," and the extravagance of the



One of several newspaper advertisements (reduced) appearing in Chicago papers in June, 1920, after Miller's return from England. At this time Orlando Edgar Miller had graduated from curing rupture, drug addiction and consumption into giving lectures on "Healing Silence" in a course on "Applied Psychology and Scientific Living."

claims made for the "treatment" was equaled only by the exorbitance of the charges. The "treatment" was from $250 up. This, it should be remembered, was in 1908, when the dollar was worth considerably more than it is in 1928. So flagrant did this piece of quackery become that THE JOURNAL made a thorough investigation, and published detailed articles on Miller and his fakeries in the issues of December 12, 1908, and January 16, 1909. The cases—unselected—of thirty-nine patients were investigated by THE JOURNAL and thirty-six of these patients were found to be dead; the other three were in a dying condition. The "institute" was claiming to cure 80 per cent of those treated!

With THE JOURNAL'S exposure, the International Institute blew up and little was heard of Miller for about two years. Then, in May, 1911, it was reported that there was an attempt to introduce his "consumption cure" into the Metropolitan Hospital, New York. Fortunately, members of the medical board of that hospital remembered Miller's record and defeated the attempt to experiment on the city's patients.

In the meantime Miller had gone to Europe, going first to Paris, where he was reported as having "influential backing" in the exploitation of his "consumption cure." From Paris Miller went to London, where he interested the Duke of Manchester in his "consumption cure" business. The duke furnished a mansion for "institute" purposes. It was claimed that in the case of Prince Hohenlohe Miller received $5,000 for the "treatment"; the prince died. Apparently, Miller then resurrected his old "sand cure" for dyspepsia. Then, in October, 1914, Orlando Edgar Miller was arrested and charged at Old Bailey with the manslaughter of a woman who died while under his "treatment." He was found guilty and sent to prison.

In January, 1920, Miller was back in America as the "Affirmative Apostle of Intense Individuality." He appeared in Chicago, his old stamping ground, and was heralded as "Orlando E. Miller, Ph.D., London, England"—a description that possibly sounded more imposing and less unpleasantly reminiscent than Orlando E. Miller, Denver, Colorado. At that time Miller was described as "Secretary" of the "International New Thought Alliance." Some of the subjects discussed in Chicago were: "The Origin of Matter; The So-Called Law of Gravitation Disproved"; "Scientific Breathing (Exoteric)"; "Scientific Feeding (Esoteric)."

In 1921 when Miller was lecturing in St. Louis on "Applied Psychology and Scientific Living," he was billed to speak before the Chamber of Commerce, but when that organization learned of his record it canceled the lecture.

Then Miller went to California and while there, in addition to fliers in psychology, he organized a motion picture concern known as the "Rellimeo Film Syndicate," with himself as president. Rellimeo, it will be noted, is O. E. Miller spelled backward. In November, 1922, the San Francisco papers reported that, because of its failure to meet the legal requirements of California, the State Corporation Department had ordered the Rellimeo Film Syndicate to return money to all stockholders on demand.

In December, 1924, the New York *Times* reported that two New York hotels had canceled Miller's "lectures."

In May, 1925, San Francisco papers reported that Miller was under investigation by the grand jury in Boston as a promoter of the "Temple of Psychology" that was to be erected at a cost of half a million dollars, in connection with a cooperative colony in Mexico. In July, 1925, Buffalo (N. Y.) papers reported the arrest of Miller on the charge of grand larceny and being a fugitive from the police of Cleveland, Ohio, where, it appears, certain hotel bills had not been paid.

In January, 1927, San Francisco papers reported that two warrants had been issued against Miller, one charging embezzlement and the other charging violation of the state corporate securities law.

The Vancouver (B. C.) *Morning Star* of March 30, 1928, reported that Miller had been released by the Canadian immigration authorities. The same paper carried a news item, under a San Francisco date-line, to the effect that Orlando Edgar Miller had been reindicted in San Francisco by the federal grand jury in February, 1928, charged with the fraudulent sale of stock in the Rellimeo concern and that the United States district attorney at San Francisco was quoted as declaring that Miller would be arrested if he steps on United States soil. It will be interesting to see how long Miller is able to stay in Canada.

Education and Culture.—Education is to the building of a house what culture is to its decoration. Vocational education equips the mind with the essentials of the trade or profession; culture adorns it with the humanities. Physicians should study living languages and the sciences for many reasons and steep themselves in the humanities for two: to fill their own reservoir of pleasure and to generate energy in their work. By studying physiology and pathology they will gain self-approval; by studying human nature they will gain the approval of others. The sort of culture they need is best obtained by familiarity with great poets, philosophers, biographers, thinkers, musicians and arts.—Collins, J.: *New England M. J.* **198**:189 (March 15) 1928.

Correspondence

SECOND BIRTH WITH SPINA BIFIDA

To the Editor:—Under Queries and Minor Notes (THE JOURNAL, March 24) appears a question on this subject. Parents of Pennsylvania Dutch ancestors have two girls of 11 and 13 both perfect in every way. One boy, aged 5 years, born with spina bifida in the lumbar region, was operated on soon after birth with the unfortunate condition that there is no control of the bowels and bladder. A baby boy born about six weeks ago has spina bifida in the cervical region (fourth and fifth cervical).

He was operated on at the age of 1 month with what we think will prove a perfect success.

E. A. RUNYAN, M.D., Carlisle, Pa.

To the Editor:—M.D., Illinois, inquires as to the possibility of a second birth with spina bifida in the same mother. From the literature available it seems to be a rare occurrence and I assured a mother that she need not worry over a second spina bifida.

The following case explains my predicament:

Mrs. H. G., aged 28, American, with family history negative, except that the husband has a large nevus vasculosus on the side of the head, was never seriously ill. She had one child, now 8 years of age, normal. There was transverse laceration of the cervix, with slight erosion. The uterus and adnexa were normal. Both husband and wife gave negative Wassermann reactions.

July 23, 1924, she was delivered at term of a baby with spina bifida and hydrocephalus. The baby lived thirty minutes.

April 28, 1926, she was delivered at term of a baby with spina bifida and hydrocephalus. The baby lived one month. I expect to deliver her again about the middle of April.

T. E. HORNER, M.D., Atchison, Kan.

To the Editor:—In THE JOURNAL, March 24, page 997, it is stated that there is on record one case of spina bifida in a subsequent pregnancy. I know of a case in which a young primipara was delivered of a full term girl with a spina bifida in June, 1922. This child died at about the age of 7 months. In 1926 the woman became pregnant again and was delivered at term of another spina bifida baby. This child was operated on and died at about six weeks.

G. J. FERREIRA, M.D., Duluth, Minn.

"LAUGHTER AND HEALTH"

To the Editor:—Thank you for making my latest book, "Laughter and Health," the subject of a leading editorial. Thank you too for soaking it. I expect that most reviewers will do so. Before I wrote it I asked Colonel Garrison at the Surgeon General's Library if there was a book on the subject and he told me there was not, though there were numbers on the physiology and psychology of laughter. Knowing that I was writing a first book on the subject, whatever knowledge I have of the history of medicine was not likely to make me think that a first book on any subject would escape severe criticism on the part of reviewers. That is the way of reviewers. Usually the first thing they say of a new idea is that the author does not know what he is talking about and then that what he has to say is absurd. I have written half a dozen of books that have been greeted this way. It was hard to get a publisher for some of them because they were so different.

The review seems to have assumed that laughter could not possibly be good for health, but then the writer does not seem to understand what laughter is. He actually compares the pleasant natural vibrations produced in the body by laughter which makes one joyful with the unpleasant succussion produced by a flivver which makes one sore. He fails to grasp the limitations of the book. I suggest that laughter prevents constipation. The editorial responds that diarrhea prevents laughter. The title of the book is "Laughter and Health," not "Laughter and Disease."

The reviewer says that "the author seems to discourage the importance of diet in the control of the large intestine." The words quoted refer to some special manipulations that laughter will replace. As my preceding book, "Eating and Health," gives as one of the most important rules for diet, "Eat something indigestible at every meal" for the sake of the residue and the roughage, diet is manifestly a favorite prescription of mine; but that has nothing to do with laughter and health.

The reviewer must only have turned the pages and read here and there for he missed the most important points. He suggests that it is a dilemma to say that there is no laughter among animals, though the animals are so healthy, and yet say that laughter brings health to man. I emphasized the fact that laughter seems to be a compensation for our erect position. In man by the influence of gravity the organs are piled on top of one another without any spaces in the abdomen. In the animal the organs hang freely from the horizontal back bone and rub on each other a good deal because of their pendulum action. Man seems to have been given or to have acquired (take your choice) laughter in order to stir up his organs, and this is particularly needed by those who live the sedentary life. The difference between man and the animals as regards conditions within the abdomen is seen from the fact that while hernia is common among men it practically does not occur among the animals.

The reviewer suggests that mechanical massage of the pancreas is one of the surest ways to stop its external secretion. That may be the case under unnatural circumstances in the animals; but, like so many other observations on animals, that does not apply to man. Laughter is not a mechanical but a natural massage. We all feel that we digest better when we laugh heartily after meals and yet it would be quite impossible for the diaphragm to go up and down as it does in laughter with the stomach full without rubbing the pancreas. If all the postprandial laughers had the external secretion of their pancreas stopped, what serious results there would be for human digestion; yet the reviewer calls it an error of fact to say that rubbing the pancreas stimulates rather than stops its secretion. Facts are not truths unless one has all the facts; and if there is anywhere in the world that we have not all the facts it is in what concerns the ductless glands. Another editorial in that issue of THE JOURNAL (March 10) shows clearly how much physiologists may differ with regard to the ductless glands. Two American schools contradict each other in matters endocrine. Surely if there is anything that is becoming clear from recent investigations it is that the ductless glands are linked together and interact in ways that we know little about as yet that will prove of great importance.

The reviewer says in his own positive way, "It is beyond the range of sound information to assert that mechanical movements of the diaphragm stimulate the thyroid and parathyroid, the thymus, the liver, the pancreas or the suprarenals." What he means by this is that no one has called attention to it before. Somehow the physical effect of laughter over our organs has been missed or much underrated. As for the abdominal organs, it is easy to understand

that they must be affected by the movements of the diaphragm, and rubbing always produces an increase of circulation so that increased function would be expected. As for the glands in the neck, if the reviewer will place his hand on this region while he laughs heartily, he will note the vibratory massage which must affect all the organs in the cervical region. There are a whole series of them there. The physical effect of laughter is exerted in two places, in the region of the diaphragm and in that of the larynx.

Nothing so arouses vitality and makes us feel good as a hearty laugh. The effect is almost instantaneous yet is definitely physical. Surely the one medium that will give such an immediate effect is the ductless gland system. Why, then, should we not make laughter a definite therapeutic resource? Some of the religious orders did so and made it a rule that after meals every one should spend some time, nearly an hour, in light hearted conversation that would encourage joyfulness and hearty laughter. There is no doubt about its benefit, though the details may have to be worked out. Laughter is ever so much more than mental in effect, as the reviewer would suggest, though there is a long chapter on favorable influence on the mind produced by laughter in my book. Even sneezing, which the reviewer touches on ironically, has its place in the chapter on Other Diaphragm Activities besides laughter (there are half a dozen of them) and all of them have a definite good effect.

JAMES J. WALSH, M.D., New York.

"RESPIRATORY VACCINES" IN PNEUMONIA

To the Editor:—My attention has been called to an advertisement recently sent out to physicians by Dr. G. H. Sherman, 14600 East Jefferson Avenue, Detroit, that at Bellevue Hospital physicians are using Sherman's Respiratory Vaccine in the treatment of their pneumonia patients. This statement is misleading. There are four medical services at Bellevue Hospital, and so far as I know vaccines have never been used on the first, second or third medical services. Certainly, they have never been used on the second (Cornell) division, with which I am connected. On the fourth medical service, vaccines have been used in the treatment of pneumonia under the direction of Dr. Alexander Lambert.

RUSSELL L. CECIL, M.D., New York.

CHRONIC LEAD POISONING FROM SNUFF

To the Editor:—The connection between snuff and lead poisoning seems to have been known for some considerable time. In the article on gout written by Sir Clifford Allbutt, Sir Frederick Hopkins and myself in the Oxford Loose-Leaf System of Medicine, the late regius professor of physic relates the following two interesting cases: "With a middle-aged colleague, I saw in consultation a patient, aged only about 35, who was suffering severely and repeatedly from articular gout. . . .Among other questions I had asked this man if he took snuff. On retirement for consultation my colleague asked me why I had asked that question. I answered, 'Because snuff is often infected by the lead paper in which it is wrapped up.' He mused upon this, and said, 'Then that is where I get my gout'; and so it was—the snuff proved to be thus contaminated with lead."

These cases, which Sir Clifford Allbutt says occurred in the early seventies, lead one to suspect that it was an etiologic factor which was in the mind of a physician dealing with snuff takers, certainly fifty years ago.

C. G. L. WOLF, M.D., Addenbrooke's Hospital, Cambridge.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

MOLDING OF FETAL SKULL — PHRENOLOGY

To the Editor:—1. The skull of the new-born undergoes more or less molding and configuration while passing through the pelvis according to the type of labor. How much, if any, of this disfigurement remains permanently? 2. What is the present attitude of science toward phrenology? To what extent is it possible to determine mental and character qualities by a study of the form and relative proportions of the head? For instance, a high forehead is believed to be an expression of superior intelligence, a certain development of the occiput an expression of musical talent, and so on. Please omit my name. M.D., Los Angeles.

ANSWER.—1. Ordinarily the changes in configuration produced by the mechanical factors in labor disappear within a week, but not infrequently a permanent asymmetry of the skull persists throughout life. In the fetus, as in other forms of growth, development takes place spirally. Usually the right parietal bone is forced into a horizontal plane and appears flat, while the left parietal bone is more convex. The reverse may occur, but this asymmetry is permanent and can be detected in head tracings of adults. In primiparas, if the head is compressed for a long time by the lower uterine segment or bony pelvis, a permanent dolichocephalus may result. Long continued pressure by the levator ani muscles in the last weeks of pregnancy may also produce a permanent deformity. Frequently in breech presentations the head is flattened by pressure of the fundus of the uterus and the abdominal wall, especially in primiparas. In some instances the distortion persists throughout life.

2. As a general proposition, the study of physiognomy or phrenology in relation to intelligence is not yet established as a science.

DIFFERENTIAL DIAGNOSIS IN SYPHILIS OF NERVOUS SYSTEM

To the Editor:—What symptoms are necessary to make a positive diagnosis of general paralysis, cerebrospinal syphilis or tabes? In a patient who has, for illustration, a 2, 3 or 4 plus positive Wassermann reaction on the spinal fluid, but only 6 cell count or less than 10 cells per cubic centimeter, what would this indicate? Which of the three following diseases would you diagnose as positive from it: general paralysis, cerebrospinal syphilis or tabes? Why your diagnosis? Please omit name.

M.D., Iowa.

ANSWER.—General paralysis is due to parenchymatous invasion of the brain by the spirochetes. The essential symptoms, consequently, are those indicative of progressive destruction of brain tissue. The one feature that is constant in all cases is a progressive dementia. Combined with this there may be many signs of irritation or destruction of brain tissue, both localized and diffuse—convulsions, hemiplegias and various forms of psychosis. The group of conditions spoken of as cerebrospinal syphilis are involvements of the blood vessels, meninges and connective tissues rather than of the parenchyma directly. In consequence, the focal symptoms tend to be more marked and the more diffuse changes, such as progressive dementia, less obvious. The strokes, the signs of increased pressure due to the formation of gummas and the abrupt changes in the picture are the principal features. This type of syphilitic disease occurs also at an earlier stage in the evolution of the invasion of the body. When the disease involves particularly the smaller blood vessels, the focal signs are less and the condition approximates more to that of general paralysis; this has given rise to the use of such terms as "pseudoparesis." Tabes dorsalis is a condition in which the change involves primarily the spinal neurons, though the exact seat of the spirochetes has not been determined. The principal symptoms are those of destruction of the incoming sensory neurons, especially those that have to do with muscle tone and muscle sense.

Since all these conditions are due to invasion of the body with syphilis, it is to be expected that the body fluids will show signs of infection with this disease in all. A diagnosis of the particular form of syphilis from the serologic observations alone is never justified. These results give only one factor which must be weighed in combination with all other observations. Nevertheless there are certain relatively suggestive differences between the three diseases mentioned. The cell count is usually relatively low in general paralysis and tabes, and high in cerebrospinal syphilis. This difference is

intelligible on the relatively greater involvement of the meninges in the last. The Wassermann reaction with the blood may be strongly positive in all three but is more constantly positive in cerebrospinal syphilis, somewhat less so in general paralysis and still less so in tabes. With the spinal fluid, the Wassermann reaction is almost constantly positive in general paralysis when only 0.2 cc. of the fluid is used in the test. With this dosage it is not uncommonly negative or weak in cerebrospinal syphilis and frequently negative in tabes. With 1 cc. of fluid, however, the reaction with the fluid will be strongly positive in all three conditions.

No diagnosis of the form of disease is justified from the facts stated in the question.

TREATMENT OF GLOSSITIS WITH LEUKOPLAKIA

To the Editor:—I have under my observation a woman, aged 40, who has had glossitis with a few patches of leukoplakia for the last six months. Her history is negative. Will you please suggest treatment? Kindly omit my name.

M.D., Oregon.

ANSWER.—In a case of glossitis the thing to do is to try to find the cause. It may be due to gastro-intestinal disturbance or to recurrent herpes of the tongue, which might also be a manifestation of glossitis. It may be due to local infections such as thrush, to syphilis, to local irritation, such as from dirty bad teeth, or to the use of overhot or too highly seasoned foods. If the cause cannot be found, the patient should be treated symptomatically. It is important to keep the gastro-intestinal tract in good condition; to clean up dirty and rough teeth; to have the patient use a dentifrice that does not sting and a bland mouth wash. Compound solution of sodium borate N. F. (Dobell's solution) of half strength or a weak sodium bicarbonate or sodium borate mouth wash are as good as anything. One of the most important things to do is to avoid irritating or too vigorous treatment. If the patches of leukoplakia are flat and not warty they can well be let alone and watched with reasonable caution. Unless they show a tendency to excoriations or to hypertrophy they need not occasion alarm. If they are warty, without infiltrated bases, they may be treated by superficial burning with the actual cautery. If they are showing ominous tendencies, such as overgrowth or excoriations, they should be seen by a dermatologist.

APPARATUS FOR THE HARD OF HEARING

To the Editor:—In the *Literary Digest* for February 18 appeared an item entitled "New Way to Make the Deaf Hear." Do you know anything about this invention and if so, what merit has it? Please omit name.

M.D., Kansas.

ANSWER.—We do not know where any more accurate information on the subject of this so-called invention may be had. If the individual is an actual deaf mute, he will be able to detect sounds only by the tactile sense. Deaf mutes are often trained by the sense of rhythm by placing their hands on the box of a piano when certain tunes are being played. The practice of reeducating the deaf by means of the voice with or without the hearing tube placed in the ear has been in practice for many years with varying results. If so simple an apparatus as a stethoscope will really do what the article in the *Literary Digest* would lead one to believe, it would hardly be necessary to look for any more complicated apparatus.

STENOSIS OF PAROTID DUCT

To the Editor:—A woman, aged 35, has for the last year and a half been having obstruction to the proper flow of parotid secretion, usually on the right side. The gland swells, causing a slight prickling sensation and numbness on the side of the face; this disappears on emptying the gland, which sometimes necessitates external pressure. She has been studied quite extensively by various clinics. No stones, inflammatory process or other pathologic condition has been found to account for this condition. Attempts had been made by one physician to sound Steno's duct about ten times, but he has never been able to introduce the sound farther than a quarter of an inch. Various medications have been tried without result. No dietary cause has been found. What suggestions can you give as to possible causative factor and treatment? Kindly omit name.

M.D., Los Angeles.

ANSWER.—Apparently there is an incomplete stenosis of the main parotid duct. It is possible that a stone may have been overlooked. The stenosis may be congenital in origin or the result of an old low grade infection.

If the narrowing is limited to one point near the outlet of the duct repeated dilations may result in relief, but with an extensive area of stenosis dilation will be difficult. One may use an ordinary small probe, a lacrimal duct probe, or a still finer one such as is used by dentists for probing dental canals.

If one is unable to pass a probe, it might be advisable to cut down on the duct and dilate the stricture, making a plastic or a new opening into the mouth; however, there is some danger of injuring a branch of the facial nerve and of producing a salivary fistula.

Ligation of the duct in the absence of infection might result in atrophy of the gland, but there is a possibility of an acute inflammatory reaction.

Section of the secretory nerve supply or extirpation of the parotid gland are both associated with considerable danger to the facial nerve.

Conservative treatment, on the whole, is to be chosen.

USE OF LENS ANTIGEN IN CATARACT

To the Editor:—Can you give me information concerning the success in the treatment of cataracts by the use of lens antigen, as reported by Dr. A. Edward Davis in the Yearbook for 1926? Is this treatment sufficiently successful to recommend it to patients? Dr. Davis speaks of it so highly that one is tempted to try it, yet I have no other information except what he has published in journals.

C. C. STEPHENSON, M.D., Los Angeles.

ANSWER.—The successful cure of cases of incipient cataract by the injection of lens antigen, as proposed by A. E. Davis, is yet to be reported. Davis announced an arrest or cure in 93 per cent of the 131 cataracts that he treated, a staggering figure, which, if true, would revolutionize modern ophthalmology. In 1924 the Council on Pharmacy and Chemistry considered the evidence of Davis and found it insufficient to permit recognition of the product (THE JOURNAL, May 28, 1927, p. 1749). In the six years that have elapsed since Davis's preliminary announcement, and despite the fact that lens antigen has been commercially available for several years, there has been no scientific corroboration of his alleged results. In the January, 1928, *Archives of Ophthalmology*, Z. H. Ellis reported on twenty-seven cataracts that he treated with lens antigen injections, following the Davis technic with great exactness. Fourteen of the cases showed progress; thirteen showed no change, while not a single case showed absorption of the cataract in examination by the slit lamp or in improvement in vision. For control, he presented fourteen cases of incipient cataract that had been watched carefully for two years or more and in which there was no progress in the cataract. Several other ophthalmologists who have given the lens antigen a fair trial in twenty or more cases report complete failure to substantiate Davis's claims. Consequently, the evidence tends to disprove the claim that incipient cataract is cured or even arrested by the injection of lens antigen. There is, moreover, a certain element of danger in the injection of the lens protein, as evidenced by various cases of anaphylactic shock, dermatitis at the site of injection, and similar complications.

TREATMENT OF EXCESSIVE PERSPIRATION

To the Editor:—What causes excessive perspiration under the arms? What treatment is indicated? I have been unable to find anything that will prohibit the condition or destroy the odor.

L. B. GRISWOLD, M.D., Utica, Ill.

ANSWER.—The causes of excessive perspiration are too elaborate to discuss fully here. A discussion of that subject can be found under hyperhydrosis in any of the textbooks on skin diseases. Usually for the relief of excessive sweating under the arms a cautious application of a 20 per cent solution of aluminum chloride in water is effective. This is to be rubbed with a swab of cotton lightly on the skin under the arms on three successive nights. Repeat in a week if necessary. If it produces irritation, it can be immediately washed off with water. In addition, regular washing with soap and water, washing under the arms with alcohol and lightly greasing under the arms with a salve of benzoic acid, 3 Gm., to 25 Gm. of petrolatum, are useful in getting rid of the odor.

USE OF TUBERCULIN

To the Editor:—We are contemplating the discarding of the Pirquet skin test and doing the intradermal test. Could we use the ordinary old tuberculin with a tuberculin hypodermic syringe, or is a special vaccine necessary for this purpose? Please omit name.

M.D., North Dakota.

ANSWER.—No special vaccine is necessary. Old tuberculin is usually employed, and the ordinary tuberculin syringe can be used.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

AMERICAN BOARD FOR OPHTHALMIC: Minneapolis, June 11. Sec., Dr. William H. Wilder, 122 S. Michigan Ave., Chicago.

AMERICAN BOARD OF OTOLARYNGOLOGY: Minneapolis, June 11. Sec., Dr. W. P. Wherry, 1500 Medical Arts Bldg., Omaha.

ARKANSAS: Little Rock, May 9-10. Sec., Reg. Bd., Dr. J. W. Walker, Fayetteville. Sec., Homeo. Bd., Dr. A. A. Pringle, Eureka Springs. Sec., Eclectic Bd., Dr. C. E. Laws, 803½ Garrison Ave., Fort Smith.

CONNECTICUT: New Haven, June 9. State Board of Healing Arts, Box 1895, Yale Station, New Haven.

DELAWARE: Wilmington, June 19-21. Sec., Dr. Henry W. Briggs, 1026 Jackson St., Wilmington.

FLORIDA: Jacksonville, June 11-12. Sec., Dr. William M. Rowlett, 812 Citizens Bank Bldg., Tampa.

GEORGIA: Atlanta and Augusta, June 6-8. Sec., Dr. B. T. Wise, Americus, Georgia.

INDIANA: Indianapolis, June 19. Sec., Dr. E. M. Shanklin, 421 State House, Indianapolis.

IOWA: Iowa City, June 5-7. Dir., Mr. H. W. Grefe, Des Moines.

KANSAS: Kansas City, June 19. Sec., Dr. Albert S. Ross, Sabetha.

LOUISIANA: New Orleans, May 1. Sec., Homeo. Bd., Dr. F. H. Hardenstein 830 Canal St., New Orleans.

MARYLAND: Baltimore, June 19-22. Sec., Reg. Bd., Dr. Henry M. Fitzhugh, 1211 Cathedral St., Baltimore. Homeo. Bd., June 12. Sec., Dr. J. S. Garrison, 517 Old Orchard Rd., Ten Hills, Baltimore.

MINNESOTA: Minneapolis, April 17-19. Sec., Reg. Bd., Dr. A. E. Comstock, 524 Lowry Bldg., St. Paul.

NEBRASKA: Omaha, May 1. Sec., Basic Science Bd., Mr. Lincoln Frost, Lincoln.

NEVADA: Carson City, May 7-9. Sec., Dr. Edw. E. Hamer, Carson City.

NEW JERSEY: Trenton, June 19-20. Sec., Dr. Chas. B. Kelley, 30 W. State St., Trenton.

NORTH CAROLINA: Raleigh, June 18. Sec., Dr. John W. MacConnell, Davidson.

OHIO: Columbus, June 6-8. Sec., Dr. H. M. Platter, State Savings Bank Bldg., Columbus.

Kansas February Examination

Dr. Albert S. Ross, secretary of the Kansas Board of Registration and Examination, reports the written and practical examination held at Topeka, Feb. 14, 1928. The examination covered 10 subjects and included 100 questions. An average of 75 per cent was required to pass. Five candidates were examined, all of whom passed. Seven candidates were licensed by reciprocity. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent
Kansas City Medical College	(1900) 95.3;	(1904)	95.7
University Medical College of Kansas City		(1902)	92.4
University of Nebraska College of Med.	(1926) 90.7;	(1927)	91.3

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
College of Medical Evangelists		(1927)	California
University of Kansas School of Medicine		(1906, 2)	Missouri
Hospital College of Medicine, Louisville		(1897)	Minnesota
Johns Hopkins University School of Medicine		(1903)	Ohio
Missouri Medical College, St. Louis		(1898)	Missouri
University Medical College of Kansas City		(1897)	Missouri

Arizona January Report

Dr. W. O. Sweek, secretary of the Arizona State Board of Medical Examiners, reports the written examination held at Phoenix, Jan. 3-4, 1928. The examination covered 10 subjects and included 10 questions. An average of 75 per cent was required to pass. Of the 6 candidates examined, 4 passed and 2 failed. Eleven candidates were licensed by reciprocity and 2 were licensed by endorsement of their credentials. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent
Howard University School of Medicine		(1926)	89.6
Creighton University School of Medicine		(1927)	77.4
Eclectic Medical College, Cincinnati		(1927)	83.2
Western Reserve University School of Medicine		(1925)	87.6

College	FAILED	Year Grad.	Per Cent
Kansas City College of Medicine and Surgery		(1924)	60
University of West Tennessee College of Med and Surg.		(1918)	60

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
University of Colorado School of Medicine		(1914)	Colorado
Loyola University School of Medicine		(1916)	Illinois
Northwestern University School of Medicine		(1924)	Illinois
University of Kansas School of Medicine		(1906)	Kansas
Hospital College of Medicine, Louisville		(1906)	Indiana
University of Louisville School of Medicine		(1908)	Penna.
Tulane University of Louisiana School of Medicine		(1909)	Louisiana
University of Minnesota Medical School		(1905)	California
New York University Medical College		(1898)	New York
Memphis Hospital Medical College		(1909)	Tennessee
University of Texas School of Medicine		(1905)	Texas

College	ENDORSEMENT OF CREDENTIALS	Year Grad.	Endorsement with
Harvard University Medical School		(1925)	N. B. M. Ex.
Long Island College Hospital		(1914)	U. S. A.

Iowa January Examination

Mr. H. W. Grefe, director of the Iowa State Board of Medical Examiners, reports the written examination held at Des Moines, Jan. 17-19, 1928. The examination covered 8 subjects and included 100 questions. An average of 75 per cent was required to pass. Two candidates were examined, all of whom passed. Five candidates were licensed by reciprocity. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent
Columbia Univ. College of Physicians and Surgeons		(1914)	80.8
German University of Prague, Czechoslovakia		(1919)	82.6

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
Emory University School of Medicine		(1916)	Georgia
Northwestern University Medical School		(1922)	Missouri
University of Minnesota Medical School		(1925)	Minnesota
Kansas City Medical College		(1905)	Kansas
Meharry Medical College		(1925)	Tennessee

Ohio January Reciprocity Report

Dr. H. M. Platter, secretary of the Ohio State Medical Board, reports that 29 physicians were licensed by reciprocity and that 1 physician was licensed by endorsement of his credentials. The following colleges were represented:

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
University of Southern California Medical Dept		(1916)	Arizona
University of Colorado School of Medicine		(1912)	Colorado
Yale University School of Medicine		(1925)	Maine, New York
Northwestern University Medical School		(1927)	Illinois
Rush Medical College		(1920)	Illinois
University of Illinois College of Medicine		(1907) (1927)	Illinois
Indiana University School of Medicine		(1924)	Indiana
State University of Iowa College of Medicine		(1926)	Iowa
University of Louisville School of Medicine		(1925)	Kentucky
Baltimore University School of Medicine		(1898)	New Jersey
Johns Hopkins University School of Medicine		(1923, 2)	Maryland
University of Maryland School of Medicine and the College of Physicians and Surgeons		(1926)	Maryland
Harvard University Medical School	(1888) Illinois;	(1925)	W. Virginia
University of Minnesota Med. School	(1909), (1923),	(1926)	Minnesota
University of Cincinnati College of Medicine		(1914)	Kentucky
Temple University School of Medicine		(1922)	Delaware
University of Pennsylvania School of Medicine		(1924)	Missouri
Meharry Medical College		(1926)	Tennessee
University of Tennessee College of Medicine		(1926)	Tennessee
Marquette University School of Medicine		(1927)	Wisconsin
Comenian University of Bratislava, Czechoslovakia		(1923)*	New York
University of Leipzig, Germany		(1920)*	Illinois
University of Budapest, Hungary		(1913)*	Texas

College	ENDORSEMENT OF CREDENTIALS	Year Grad.	Endorsement with
Northwestern University Medical School		(1925)	N. B. M. Ex.

* Verification of graduation in process.

District of Columbia January Examination

Dr. Edgar P. Copeland, secretary of the Medical Supervisors of the District of Columbia, reports the oral, written and practical examination held at Washington, Jan. 10-12, 1928. The examination covered 16 subjects and included 80 questions. An average of 75 per cent was required to pass. Thirteen candidates were examined, all of whom passed. Nine physicians were licensed by reciprocity. The following colleges were represented:

College	PASSED	Year Grad.	Per Cent
University of Colorado School of Medicine		(1927)	87.3
Yale University School of Medicine		(1927)	85.3
George Washington University Medical School		(1926)	89.5
Howard University School of Med.	(1925) 84.8;	(1927) 77.6,	81, 84.4
Rush Medical College		(1924)	83.6
Johns Hopkins University School of Medicine		(1925)	88.5
College of Physicians and Surgeons, Boston		(1917)	82.9
Eclectic Medical College, Cincinnati		(1927)	75.1
University of Pennsylvania School of Medicine		(1926)	87.3
University of Virginia Department of Medicine		(1925)	88.6

College	LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
Stanford University School of Medicine		(1924)	California
George Washington University Medical School		(1925)	Virginia
Tulane University of Louisiana School of Medicine		(1905)	Mississippi
Leonard Medical School, Raleigh		(1908)	N. Carolina
University of Pennsylvania School of Medicine		(1901) (1907)	N. Carolina Pennsylvania
Memphis Hospital Medical College		(1904)	Oklahoma
University of West Tennessee Coll. of Med. and Surg.		(1915)	N. Carolina
University of Virginia Department of Medicine		(1922)	Virginia

Book Notices

OUTLINES OF PATHOLOGY IN ITS HISTORICAL, PHILOSOPHICAL AND SCIENTIFIC FOUNDATIONS. A Guide for Students and Practitioners of Medicine. By Horst Oertel, Strathcona Professor of Pathology, McGill University, Montreal, Canada. Cloth. Price, $10 net. Pp. 479, with 132 illustrations. Montreal: Renouf Publishing Company, 1927.

This interesting book on pathology as a pure science is divided into three chapters. Chapter I, which traces the development of the conception of disease, is excellent. It occupies only twenty-seven pages, but these pages sketch broadly the escape of pathology from mysticism and dogma. This chapter is warmly recommended to the students of medicine. Chapter II discusses etiology under the general headings of subjective or internal, and objective or external factors of disease. The page and a half devoted to vitamins does not seem to do sufficient justice to that important topic. The consideration of the infectious agents of disease is noteworthy for the attention it gives to the historical aspects of the doctrine of spontaneous generation as it affected the development of microbiology. The third and longest chapter deals with pathogenesis; that is, "the development of disease or, more accurately, of pathological lesions." First comes a discussion of infection and immunity, which are considered as more or less specific reactions to foreign invasions. Here again the historical parts are commendable. The great interest in infection at the beginning of the eighteenth century is not emphasized. The fact that inoculation of smallpox rapidly fell into disuse when and probably because Jenner demonstrated the value of vaccination does not stand out as clearly as it should. The statement on page 117 that Pasteur introduced the word vaccination apparently overlooks the use of the word since Jenner's time. It would be interesting to learn how and by whom this word was introduced. What Pasteur did was to extend its meaning to include his protective inoculations with attenuated bacterial cultures. The remarkable demonstration by Jenner and later by Bryce of allergic reactions to smallpox and vaccine virus in the vaccinated and in persons who had had smallpox is not mentioned.

In questioning certain views of the nature of immune reactions, the author sometimes goes further in a contrary direction than seems warranted. For instance: Was it truly "a fundamental error" to regard immune phenomena as the result of reactions between chemical substances? Again: "A neutral mixture of toxin and antitoxin is still under certain conditions poisonous and may again be dissociated. This excludes any chemical reaction between the two." But does it? Do not chemical compounds dissociate?

The remaining 320 pages are devoted to general pathologic anatomy (morphology) and in the main the presentation follows conventional lines. The emphasis is laid on tracing disease to its structural basis. "It is the great accomplishment of pathological anatomy and histology to have substituted localized, definite organic changes, as morbid basis, for hazy, largely imaginary ideas of constitutional blood or humoral anomalies." The chemical and physical processes underlying the morphologic changes are not given much consideration.

The paper is heavy and glazed and the lines are rather long, but the type is large and clear. The illustrations are not especially attractive; to explain adequately the reassortment of hereditary characteristics or hypothetic mechanisms of lysis and complement fixation hardly requires elaborate figures in colors on otherwise blank leaves. In several instances the accepted spelling has been changed: esotoxin for exotoxin; fibroplast for fibroblast, myeloplast for myeloblast; discrases (slip of the pen?) for dyscrasias. Valuable notes and references occur at the end of the principal sections. The language is rather cumbersome and the lines are broken up by an unusually large number of parentheses.

Finally let it be noted that this book is not offered as a textbook for the transmission of accumulated knowledge or as a source of information in regard to pathology in the rôle of handmaiden to practical medicine. The purpose of the book is to serve as an introductory guide to the study of pathology as a branch of pure science. It is the author's firm conviction and main thesis that pathology will make the most satisfactory progress if it is cultivated in the true scientific spirit without any immediate reference to the practical application or utilitarian value of the results. Be that as it may, any honest and diligent search for new truth is bound to favor improvement of the conditions of man.

PRACTICAL GUIDE TO DISEASES OF THE THROAT, NOSE AND EAR. For Senior Students and Junior Practitioners. By William Lamb, M.D., C.M., M.R.C.P., Consulting Surgeon, Birmingham Ear and Throat Hospital. Revised by Frederick W. Sydenham, M.D., C.M., F.R.C.S., Honorary Surgeon, Birmingham Ear and Throat Hospital. Fifth edition. Cloth. Price, $4.50. Pp. 450, with 109 illustrations. New York: William Wood & Company, 1927.

This small textbook is intended chiefly for students and general practitioners. The discussions are necessarily paragraphic. It is, however, well illustrated. The anatomic descriptions are detailed for a work of this size. There is an interesting chapter on the treatment of ear conditions by zinc ionization, something not often seen in the larger textbooks. Altogether this little work serves its purpose well.

KONTRAST UND SCHÄRFE IM RÖNTGENBILDE. Von Dr. med. Willem Bronkhorst, leitender Arzst des Sanatoriums "Berg en Bosch" Apeldoorn. Fortschritte auf dem Gebiete der Röntgenstrahlen. Ergänzungsband 39. Archiv und Atlas der normalen und pathologischen Anatomie in typischen Röntgenbildern. Herausgeber: Prof. Dr. Grashey. Paper. Price, 15 marks. Pp. 104, with illustrations. Leipsic: Georg Thieme, 1927.

Although roentgenography has been used in medicine for the last thirty years, its technic is still empiric. This is in contrast to roentgenotherapy, which from the beginning enlisted the aid of physicists and was placed on an experimental foundation. On account of this there has been a lack of uniformity among roentgenologists as to what is the correct technic. This volume is divided into two parts. The first section gives the results of the author's investigation of contrast. He describes his methods of measuring contrast. He then discusses the variations in contrast in various types of films. He takes up the effects of voltage, of intensifying screens, of stray radiation and of filters for stray radiation on contrast. The second section deals with sharpness. Although of less importance than contrast, it is often recognized as a diagnostic aid. The various problems of sharpness, the measuring of focal spots, the value of the roentgen-ray tube and effect of voltage, scattered radiation and intensifying screens on sharpness are thoroughly treated. In a side pocket in the back cover there are thirty charts.

ELEMENTS OF PHYSIOLOGY. For Students of Medicine and Advanced Biology. By Ernest G. Martin, Ph.D., Professor of Physiology in Stanford University, and Frank W. Weymouth, Ph.D., Associate Professor of Physiology in Stanford University. Cloth. Price, $8 net. Pp. 784, with 133 illustrations. Philadelphia: Lea & Febiger, 1928.

This is on the whole a well written textbook of physiology intended for graduate and medical students. Dr. Martin, the senior author, is known not only for his many important researches in physiology but also for his several revisions of the old classic "Martin's Human Body." The subject of physiology is treated under four main headings. Part I, on the nature and capacities of protoplasm, was written by Dr. Martin and contains nine chapters, on cell organization, cell membranes, chemistry of life processes, conduction, reflex action, and gland function. Part II has as a general heading cell environment; it was written by Dr. Martin and contains five chapters, on regulation of neutrality, inorganic salts, vitamins, hormones and oxygen. Part III, with the general heading of body maintenance, was written by Dr. Martin and contains fifteen chapters, mainly dealing with the physiology of the blood, circulation, respiration, digestion, secretion and

metabolism. Part IV under the general heading of external adjustment, with twelve chapters, most of them written by Dr. Weymouth, deals with the nervous system and sense organs, with a final chapter on reproduction. There is some repetition, unavoidable because of the arrangement of the material. Despite this the book is on the whole concise, and as critical and accurate as one can reasonably expect when the whole complex subject of physiology is treated by two men. The preface relates that the authors had two "key principles" in mind in preparing the book. The first is to present the essential groundwork of general physiology applicable to all living things. The second is that every protoplasm cell is inherently a cell-sustaining system. One can readily see the importance of the first key principle, but the importance of the second principle in the preparation of a textbook as a guide to graduate and medical students is not so clear, at least in the present status of the science of physiology. Nevertheless, the book will take its place with the best in the field today.

DIE LAGERUNG VERLETZTER UND ERKRANKTER GLIEDMASSEN. Leerschienen und verbandlose Wundbehandlung. Von Geh. Med.-Rat. Prof. Dr. Heinrich Braun. Paper. Price, 12 marks. Pp. 118, with 101 illustrations. Leipsic: Johann Ambrosius Barth, 1928.

The author discusses the open treatment of wounds, and presents his methods based on experience gained during the World War and from ten years of civil practice. The larger portion of the volume, however, deals with the use of open splints. The author says that these must be fully understood and properly used to accomplish the advance which their employment affords in the treatment of injured and diseased extremities. After an introduction and a discussion of the open treatment of wounds, the author describes in detail the construction and use of two leg-splints. He next discusses the treatment of fractures by means of continuous traction and then describes the treatment of fractures of the lower extremity by means of the use of the leg-splints mentioned. Two other leg-splints are then discussed. Next three arm-splints are described and their indications and uses discussed. The book ends with a summary and an appendix in which the author discusses the outlook for war surgery and other surgery when hospital facilities are not available. There is a bibliography of 104 references. There is no index, but the subject matter is rendered easily available by a table of contents. The presentation of the material is clear and practical and is greatly enhanced by numerous diagrams and photographs of actual cases in which the author's methods are applied.

SOCIAL LIFE IN THE ANIMAL WORLD. By Fr. Alverdes, Ph.Dr., Professor extraord. of Zoology in the University of Halle. Cloth. Price, $3.75. Pp. 216. New York: Harcourt, Brace & Company, Inc., 1927.

The evolutionist will greatly appreciate this brief résumé of the manner in which the animal world, from the smallest to the largest forms, has developed societies, family relationships, systems of play and traditions. The author writes charmingly and bases his information on a well selected bibliography. A concluding chapter on human sociology points out that our institutions are a reflection of our inner lives, and that our ethical ideals are dependent on the whole system of instincts and impulses which man possesses solely in virtue of his being a social creature. A complete survey of social life in the animal world indicates to Dr. Alverdes that promiscuity has never been the rule in any human society and that the family has always been and is today the supporter of the race as a whole and of individual races.

DIE LAGEREFLEXE DES MENSCHEN. Klinische Untersuchungen über Haltungs- und Stellreflexe und verwandte Phänomene. Von Hans Hoff, Dr. Med., Sekundararzt der psychiatrisch-neurologischen Klinik der Universität Wien, und Paul Schilder, Dr. Med. et Phil. Prof., Assistent der psychiatrisch-neurologischen Klinik der Universität Wien. Paper. Price, 12 marks. Pp. 182, with 20 illustrations. Vienna: Julius Springer, 1927.

In this monograph by two eminent workers in the field of neurology, clinical application of the epoch making work of Magnus and deKleyn is thoroughly studied. The relation of various tonic labyrinthian and neck reflexes is described in the normal infant and adult and in various clinical entities. A detailed summary of the work cannot be given, owing to the number and magnitude of important facts contained. Students of clinical or investigative neurology should have a knowledge of the contents of this monograph, perhaps the best recent work on the subject.

THE EXTRA-OCULAR MUSCLES. A Clinical Study of Normal and Abnormal Ocular Motility. By Luther C. Peter, A.M., M.D., Sc.D., Professor of Ophthalmology in the Medical Department of Temple University. Cloth. Price, $4 net. Pp. 294, with 103 illustrations. Philadelphia: Lea & Febiger, 1927.

The average oculist who writes a book has become so self-centered by his studies that he is not able to express himself so as to be understood by an average ophthalmologist. But not Dr. Peter! He has produced a textbook on extra-ocular muscles that is readable, understandable and full of common sense. His treatment of the subject leaves no excuse for the only too frequent remark: "I don't know anything about ocular muscles." The book is divided into five parts, of which the first deals with anatomy and physiology. A large amount of this material, both descriptive and illustrative, is borrowed, with proper acknowledgment, from Whitnall's excellent text. In describing the position of functional rest of the eyes, comparison with the military commands of "At ease" and "Rest" is made; it is suggested that a study of infantry drill regulations be made before the publication of the second edition of this book. Particularly to be commended is the emphasis placed on early attention to squint in children. The second part deals with heterophoria and embodies the soundest principles of a careful modern clinician. The wild claims of the Stevens-Gould school of enthusiasts find no place in Peter's careful analyses. On page 152 occurs the one misprint found, where "sphere" is used in place of "prism"; otherwise the proof-reading has been good. Part III deals with heterotropia and is just as sound and well written as the preceding chapter. The author's views on congenital amblyopia and amblyopia ex anopsia are given at length, but it is questionable whether they would receive universal support. In dealing with the surgical treatment, it would seem that overemphasis is laid on the dangers of tenotomy. Otherwise the surgical doctrines are sound. In Part IV, paralytic squint is given full consideration. Owing to the complex nature of the subject, the descriptive text is not as clear as in the other chapters; but still it is infinitely superior to that found in other books. Nystagmus forms the subject matter of Part V, which is only five pages long. A noticeable absence here is the name of Ohm of Bottrop, who probably has written more about nystagmus than all other ophthalmologists. The German literature receives scant mention. The text is practical, the illustrations really illustrative, and the book making and binding satisfactory. This is a book that every ophthalmic student and practicing ophthalmologist can read with profit and pleasure.

DIE WECHSELJAHRE DER FRAU. Von Privatdozent Dr. Hans Zacherl, Assistent der Universitätsfrauenklinik in Graz. Paper. Price, 7.50 marks. Pp. 127. Vienna: Julius Springer, 1928.

The menopause is treated in monographic style by Zacherl. He takes up in order a rather complete consideration of the physiologic, pathologic and artificial menopause. He lays emphasis on hygiene and diet in the treatment of the first type named and stresses the value of hydrotherapy, saline catharsis and exercise. In cases in which there is a tendency toward obesity, he warns against forced reducing and thyroid gland therapy. The author suggests that occupation, and interest in literature and the arts help to overcome the psychic and nervous manifestations of the climacteric. Under pathology of the menopause Zacherl reviews the various complications, such as pruritus, kraurosis and colpitis. The reviewer sought eagerly to find something new and helpful under treatment but was disappointed to find only the usual therapeutic suggestions, which at best are usually unsuccessful. In the third group, the artificial menopause, the author compares the symptoms which occur after surgical castration with those produced by the roentgen ray. When the latter is utilized for the production of premature menopause, the vasomotor symptoms are more severe but the pruritus is likely

to be less; the libido may be increased after roentgen ray and decreased following postoperative menopause. As a whole, the monograph is a fairly complete treatise but does not yield any new or original information that might be considered a contribution to our gynecologic knowledge.

DISEASES OF THE MOUTH. By Sterling V. Mead, D.D.S., Professor of Oral Surgery and Diseases of the Mouth, Georgetown Dental School. Cloth. Price, $10. Pp. 578, with 303 illustrations. St. Louis: C. V. Mosby Company, 1927.

This work is intended primarily as a textbook for medical and dental students. The general practitioner will appreciate the clear, concise and "outline" form of presentation. Those who seek a more detailed discussion will be helped by the extensive bibliography appended to every chapter. The author's differentiation between periodontal diseases and periodontoclasia is very timely. A good deal of confusion exists from the indiscriminate use of the term pyorrhea. Dr. Mead's stand against the unwarranted dependence on mouth washes and curealls in the treatment of pyorrhea should be heartily endorsed. The problem of devitalized teeth the author treats sanely. He believes, and his opinions are well supported by authoritative men, that single rooted teeth may be rendered sterile and serviceable after the extirpation of the pulp. He maintains the same rational attitude in the treatment of impacted teeth, advising against indiscriminate removals. Patients whose oral malconditions are only a phase of a general infectious process should receive early and competent attention. The importance of an early diagnosis is emphatically indicated in all abnormal growths of lips, gums or tongue. The inevitable conclusion is that a general practitioner will render the maximum good to his patients by referring them to specialists, who by their training and experience are best qualified to diagnose and adequately treat such conditions. The book is well printed. The illustrative matter is excellent. The work as a whole is a valuable addition to the literature of the subject.

KURZE GESCHICHTE DER CHIRURGIE. Von W. von Brunn, Professor für Geschichte der Medizin an der Universität Rostock. Paper. Price, 24 marks. Pp. 339, with 317 illustrations. Berlin: Julius Springer, 1928.

In a typically well printed and handsomely illustrated volume, Professor von Brunn sets forth the main impulses which guided the development of modern surgery. He points out that it is especially important in these modern times, with the tendency toward mechanization of the healing art, that the practitioner be familiar with the historical background of his profession. The book is planned not as a reference work but as an easily readable volume for the surgeon. The interesting illustrations and the manner of relation of the story make it certain to fulfil this function satisfactorily. The author is obviously familiar with the medical history of many peoples and he has had available vast collections of material which permit a personal point of view.

The section on Arabian medicine is especially complete in its scope. Fully seventy-five pages of the volume deal with modern developments, beginning with the work of the modern anatomists and physiologists. This section of the book is replete with excellent portraits of great contributors. The author has obviously been greatly indebted to Garrison's work, not only for numerous illustrations but also for much textual material. His characterization of the Mayo Clinic as "ein gewaltiges klinisches Institut" is particularly apt. A good bibliography of medical history and a well selected index complete this work.

A TEXTBOOK OF BACTERIOLOGY AND ITS APPLICATIONS. By Curtis M. Hilliard, Professor of Biology and Health, Simmons College. Cloth. Price, $2.80. Pp. 329, with 59 illustrations. Boston: Ginn & Company, 1928.

The need for a good textbook for general college courses in bacteriology is well recognized. After reading Hilliard's book there still remains a doubt as to whether this need has been fulfilled. The material is not so essentially different either in arrangement or in method of presentation from that found in other general bacteriologies as to give this book special recognition. However, original treatment and practical use may be difficult to correlate. While fundamental characteristics of bacteria must be given, it is doubtful to what extent laboratory procedures are valuable in a textbook which will be used mainly for classroom instruction. The book is intended primarily for students of home economics, and the author has included material which covers the interests of this class of students. A few minor comments may be made. Although Bergey's nomenclature for bacteria is given as the proper one, it is not used consistently in the text. For example, the typhoid bacillus is sometimes designated as *Eberthella typhi*, sometimes as *Bact. typhosus*. The electrical process for milk pasteurization is treated as if it were an established method. This is far from a fact at the present time. The day should have passed when it was necessary to present Ehrlich's outgrown theories of immunity to elementary students by means of fantastic diagrams. In the chapter on the public health laboratory, no mention is made of the widely used Kahn test. One of the best chapters in the book is that contributed by Miss Foster on bacteria and the physical environment.

KLEINE SPORTKUNDE FÜR ÄRZTE, LEHRER, STUDIERENDE DER MEDIZIN UND DER LEIBESÜBUNGEN. Herausgegeben von Prof. Dr. Hermann Altrock. Cloth. Price, 9.50 marks. Pp. 371, with 43 illustrations. Leipsic: Georg Thieme, 1928.

The author has assembled a series of articles covering the technic of most modern sports and the physical considerations associated with participation in such activities. While brief in its scope, the volume is actually encyclopedic in its detail. The medical authorities consulted are apparently men who have given special attention to the purpose concerned. They discuss pulse rates, effects on the respiration, the body build best suited to various athletics, and similar subjects. Special forms are listed for recording the physical qualifications of athletes.

UNDERSTANDING HUMAN NATURE. By Alfred Adler. Translated by Walter Béran Wolfe. Cloth. Price, $3.50. Pp. 286. New York: Greenberg, 1927.

In this volume the distinguished proponent of individual psychology expresses his views in a manner quite understandable to any intelligent reader. It is Dr. Adler's thesis that the craving for power is perhaps the dominant desire of mankind, before the freudian libido or any other motivation. The translation by Dr. Walter B. Wolfe is in a readable style. The volume is one that will appeal not only to the physician but also to the educator who is especially interested in child psychology.

QUESTIONS PHYSIOLOGIQUES D'ACTUALITÉ. Par Léon Binet, professeur agrégé de physiologie à la Faculté de médecine de Paris. Paper. Price, 18 francs. Pp. 226, with 55 illustrations. Paris: Masson & Cie, 1927.

This contains twenty-four chapters or lectures given as conferences on problems in physiology in the medical faculty of the University of Paris during the year 1925-1926. It is in no sense a textbook or monograph covering the whole aspect of physiology, but the author has taken a number of problems and clearly developed their present status in the light of experimental and clinical data. It is a well written, critical and concise discussion of many problems important both in fundamental physiology and in medicine. Each chapter or lecture refers to the important literature on the subject.

CONVALESCENCE, HISTORICAL AND PRACTICAL. By John Bryant, M.D. Cloth. Price, $5. Pp. 269, with illustrations. White Plains, N. Y.: Burke Foundation, 1927.

This volume constitutes an adequate source-book for every one interested in the survey of convalescence in the practice of medicine. It provides a chronological review from the earliest times and special consideration of the Burke Foundation, the Cleveland Hospital, a survey of the situation in Russia, a tremendous series of notes on convalescence work in the United States Army, and finally a general survey of conditions as they exist today. Much of the material has appeared in the *Boston Medical and Surgical Journal*. Almost one hundred illustrations indicate the trend of progress in the construction of institutions especially planned for the care of the convalescent.

Books Received

Books received are acknowledged in this column, and such acknowledgment must be regarded as a sufficient return for the courtesy of the sender. Selections will be made for more extensive review in the interests of our readers and as space permits. Books listed in this department are not available for lending. Any information concerning them will be supplied on request.

THE POLYNUCLEAR COUNT. The Nucleus of the Neutrophil Polymorphonuclear Leucocyte in Health and Disease, with Some Observations on the Macropolycyte. By W. E. Cooke, M.D., Director of the Pathological Department, Royal Infirmary, Wigan, and Eric Ponder, M.D., D.Sc., Associate Professor of General Physiology, New York University. With an introduction by John Hay, D.L., M.D., Professor of Medicine, Liverpool University. Cloth. Price, $3. Pp. 80, with 26 illustrations. Philadelphia: J. B. Lippincott Company, 1927.

Details of the significance of changes in the white blood cell count.

DAS WEIB IN ANTHROPOLOGISCHER UND SOZIALER BETRACHTUNG. Von Weiland Prof. Dr. Oskar Schultze, Vorstand des anatomischen Instituts Würzburg. Umgearbeitet und Ergänzt nach sexualbiologischen und soziologischen Gesichtspunkten zur Grundlagen der Frauenkunde von Dr. Max Hirsch, Frauenarzt in Berlin. Third edition. Paper. Price, 3.60 marks. Pp. 112, with 23 illustrations. Leipsic: Curt Kabitzsch, 1928.

Brief guide to the ethnology of woman, more popular than scientific.

GRUNDRISS DER KLINISCHEN STUHLUNTERSUCHUNG, ZUSAMMENFASSENDE DARSTELLUNG DER WICHTIGSTEN MAKROSKOPISCHEN, MIKROSKOPISCHEN UND CHEMISCHEN UNTERSUCHUNGSMETHODEN UND IHRER DIAGNOSTISCHEN BEDEUTUNG. Von Alfred Luger, Privatodozent für innere Medicin, Universitätsklinik in Wien. Paper. Price, 36 marks. Pp. 341, with 209 illustrations. Vienna: Julius Springer, 1928.

Complete guide to investigation of feces in every way.

THE MECHANICS OF THE DIGESTIVE TRACT. An Introduction to Gastroenterology. By Walter C. Alvarez, M.D., Associate Professor of Medicine, University of Minnesota (The Mayo Foundation). Second edition. Cloth. Price, $7.50 net. Pp. 447, with 100 illustrations. New York: Paul B. Hoeber, Inc., 1928.

Revised edition of the author's notable contribution to common sense concerning motion in the intestinal tract.

METHODEN DER HÄMOLYSEFORSCHUNG (MIT EINSCHLUSS DER HÄMAGGLUTINATION). Von Dr. Hans Sachs, o. Professor an der Universität, Heidelberg, und Dr. Alfred Klopstock, Privatdozent an der Universität, Heidelberg. Paper. Price, 13 marks. Pp. 235. Berlin: Urban & Schwarzenberg, 1928.

Detailed study of the factors relating to agglutination of blood corpuscles and associated phenomena.

A STUDY OF SOME ORGANIC ARSENICAL COMPOUNDS WITH A VIEW TO THEIR USE IN CERTAIN STREPTOCOCCAL INFECTIONS. By Leonard Colebrook, M.B., B. S. Medical Research Council. Special Report Series No. 119. Paper. Price, 1s. 3d. net. Pp. 40, with 3 illustrations. London: His Majesty's Stationery Office, 1928.

Research on some new compounds not generally available.

MUSCLE FUNCTION. By Wilhelmine G. Wright. With a foreword by J. Playfair McMurrich, Professor of Anatomy, University of Toronto. Cloth. Price, $3.50 net. Pp. 188, with 26 illustrations. New York: Paul B. Hoeber, Inc., 1928.

Muscle reeducation as developed by Lovett in the Harvard school.

DIE BEHANDLUNG DER GIFTSUCHTEN, ALKOHOLISMUS, MORPHINISMUS, KOKAINISMUS USW. Mit einem Anhang: Die gesetzliche Behandlung der Giftsuchten. Von Dr. Ernst Joël. Paper. Price, 5 marks. Pp. 118. Leipsic: Georg Thieme, 1928.

Treatment of narcotic addiction by routine methods.

THE SPRINGTIME OF PHYSICK BEING A DIVERTING OUTLINE OF MEDICINE AND SURGERY. By Laurance D. Redway, M.D., Attending Ophthalmologist, Northern Westchester Hospital, Mount Kisco, N. Y. Cloth. Price, $2. Pp. 68. New York: Int. Journal of Surgery Company, 1928.

Medical humor!

"IT IS SEX O'CLOCK." By Lee Alexander Stone, M.D. With a foreword by Dr. W. A. Evans, Health Editor, Chicago Tribune. Paper. Price, $1. Pp. 77. Chicago, 1928.

The author here makes available the lectures he has given in schools, colleges, Y. M. C. A.'s on "the facts" of life.

APPENDICITIS. By Thew Wright, A.B., M.D., F.A.C.S., Chief of Surgical Service, Children's Hospital. Cloth. Price, $2 net. Pp. 129, with illustrations. New York: Allen Ross & Company, 1928.

Apparently the public needs information about appendicitis.

HANDBOOK ON DIET. By Eugene E. Marcovici, M.D., Instructor, Post-Graduate Hospital. Cloth. Price, $3.50 net. Pp. 323. Philadelphia: F. A. Davis Company, 1928.

Dietary notions with scientific elucidations.

SILVERLOCKS. By Francis Kean MacMurrough. Cloth. Price, $1. Pp. 136. New York: Avondale Press, 1927.

Words arranged metrically after the usual fashion but without much inspiration.

SHIPWRECK IN EUROPE. By Josef Bard. Cloth. Price, $2.50. Pp. 314. New York: Harper & Brothers, 1928.

A psychoanalytic novel as confused in some places as psychoanalysis itself.

HANDBUCH DER NORMALEN UND PATHOLOGISCHEN PHYSIOLOGIE MIT BERÜCKSICHTIGUNG DER EXPERIMENTELLEN PHARMAKOLOGIE. Herausgegeben von A. Bethe, G. v. Bergmann, G. Embden, und A. Ellinger. Band X. Spezielle Physiologie des Zentralnervensystems der Wirbeltiere. Von A. Böhme, Graham Brown, usw., usw. Paper. Price, 110 marks. Pp. 1284, with 214 illustrations. Berlin: Julius Springer, 1927.

HANDBUCH DER PATHOGENEN MIKROORGANISMEN. Von W. Kolle, R. Kraus, und P. Uhlenhuth. Lieferung 14. Band V. Die Sprosspilze. Von Prof. Dr. A. Buschke, und Dr. A. Joseph. Die Sporotrichose. Von Prof. Dr. A. Buschke, und Dr. E. Langer. Diphtherie. Von Prof. Dr. H. A. Gins. Third edition. Paper. Price, 20 marks. Pp. 321-524, with 46 illustrations. Jena: Gustav Fischer, 1928.

DIE CHIRURGIE. Eine zusammenfassende Darstellung der allgemeinen und der speziellen Chirurgie. Herausgegeben von Prof. Dr. M. Kirschner, und Prof. Dr. O. Nordmann. Lieferung 21. II. Band. 2 Teil. Die Chirurgie der Muskeln, Sehnen und Fascien. Von Prof. Dr. W. Müller. Paper. Price, 21 marks. Pp. 867-1104, with 124 illustrations. Berlin: Urban & Schwarzenberg, 1928.

HANDBUCH DER NORMALEN UND PATHOLOGISCHEN PHYSIOLOGIE MIT BERÜCKSICHTIGUNG DER EXPERIMENTELLEN PHARMAKOLOGIE. Herausgegeben von A. Bethe, G. v. Bergmann, G. Embden, und A. Ellinger. Band I. A. Allgemeine Physiologie. Von K. Boresch, Ph. Broemser, usw., usw. Paper. Price, 64 marks. Pp. 748, with 119 illustrations. Berlin: Julius Springer, 1927.

OUTLINES OF NURSING HISTORY. By Minnie Goodnow, R.N., Directress of Nurses, Hospital of the Graduate School of Medicine, University of Pennsylvania. Fourth edition. Cloth. Price, $3 net. Pp. 472, with 139 illustrations. Philadelphia: W. B. Saunders Company, 1928.

DIE DIATHERMIE. Von Dr. Josef Kowarschik, Primararzt und Vorstand des Institutes für physikalische Therapie im Krankenhaus der Stadt Wien in Lainz. Sixth edition. Cloth. Price, 16 marks. Pp. 246, with 125 illustrations. Berlin: Julius Springer, 1928.

AN ELEMENTARY TEXT BOOK OF GENERAL MICROBIOLOY. By Ward Giltner, Professor of Bacteriology and Hygiene, Michigan State College. Cloth. Price, $3.50 net. Pp. 471, with 99 illustrations. Philadelphia: P. Blakiston's Son & Company, 1928.

CHRONIC PULMONARY CATARRH. By Duncan Leys, M.B., M.R.C.P., John and Temple Research Fellow in Diseases of Children, St. Thomas's Hospital. Cloth. Price, 7/6 net. Pp. 130, with 4 illustrations. London: H. K. Lewis & Company, Ltd., 1927.

ASTHMA: Its Diagnosis and Treatment. By William S. Thomas, M.D., Associate Attending Physician in Immunology, St. Luke's Hospital, New York. Cloth. Price, $7.50 net. Pp. 279, with 26 illustrations. New York: Paul B. Hoeber, Inc., 1928.

CHILD LIFE INVESTIGATIONS: The Cause of Foetal Death in 144 Cases. By A. C. Palmer, O.B.E., F.R.C.S., Medical Research Council, Special Report Series, No. 118. Paper. Price, 3s. net. Pp. 111. London: His Majesty's Stationery Office, 1928.

CHIMIOTHÉRAPIE PAR VOIE BUCCALE AVEC L'ARSENIC. Par le Docteur Kurt Heymann. Préface de M. le Docteur Levaditi de l'Institut Pasteur de Paris. Paper. Pp. 133, with illustrations. Paris: J. B. Baillière & Fils, 1928.

SCHEMATISCHE SKIZZEN ZUR EINFÜHRUNG IN DIE CHIRURGIE. (MNEMOTECHNISCHE PROPAEDEUTIK). Von Prof. Dr. Th. Naegeli. Cloth. Price, 15 marks. Pp. 216, with 322 illustrations. Leipsic: F. C. W. Vogel, 1928.

SEVENTEENTH ANNUAL REPORT OF THE STATE INSTITUTE FOR THE STUDY OF MALIGNANT DISEASE, DEPARTMENT OF HEALTH STATE OF NEW YORK, FOR THE YEAR 1927. Paper. Pp. 34. Albany, 1928.

L'ENFANT ET NOUS. Une voix d'Amérique. Par le Dr. B. Liber. Second edition translated from the American edition by Louis Postif. Paper. Price, 12 francs. Pp. 275. Paris: Jean Clar, 1928.

TRANSACTIONS OF THE INDIANA ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY. Tenth Annual Meeting, Fort Wayne, December, 1927. Paper. Pp. 124. Indianapolis, 1928.

REPORT OF THE COMMISSIONER OF HEALTH OF PORTO RICO TO THE GOVERNOR OF PORTO RICO FOR THE FISCAL YEAR ENDING JUNE 30, 1926. Paper. Pp. 220. San Juan, 1927.

Medicolegal

As to Having Received Medical or Surgical Attention

(Travelers' Ins. Co. v. Pomerantz et al. (N. Y.), 158 N. E. R. 21)

The Court of Appeals of New York, in reversing a judgment of the appellate division which affirmed a judgment dismissing the complaint, says that the insurance company brought the action to obtain the rescission of a policy of life and disability insurance for material misrepresentations. The policy was issued, May 10, 1922, and on Feb. 28, 1923, the insured made claim for permanent total disability stating that, as a result of a motorcar collision in August, 1922, he became wholly disabled; that after this collision he began to feel pain in his heart and shortly thereafter had a severe heart attack and fainting spell and was advised by his physician not to attempt any form of occupation because his heart was in a weak condition. In applying for the insurance he signed this statement:

> 12. I am not deformed; I have had no bodily or mental disease, nor have I received medical or surgical attention within the past five years except as herein stated.

The courts below decided that the statement, by fair interpretation, must be held to mean that the defendant was not deformed, that he had had no bodily or mental disease, and that he had received no medical or surgical attention within the past five years for a bodily or mental disease. But this court can find no other meaning in the statement than the enumeration of three distinct subjects: (1) deformity; (2) previous bodily or mental disease; (3) medical or surgical attention within the past five years. If medical or surgical attention had been intended to refer only to bodily or mental disease, the statement ought to have been and presumptively would have been differently framed. Naturally, it would have read that the attention had been "for such bodily or mental disease," or "therefor," or "in connection therewith," or it would have included some other phrase expressing a relation between a disease and medical or surgical attention. The statement, as framed, affected the question whether an applicant, not deformed, and never afflicted with any bodily or mental disease, had received within five years medical or surgical attention for injuries or for illnesses other than diseases. An applicant might have fractured his bones on twenty occasions or suffered at frequent intervals from indispositions which indicated a weak constitution and revealed a tendency toward disease, but which had not yet developed into a definite disease.

That the statement was false in at least one particular was certain, the proof being that within the past five years he had received medical attention no less than twelve times from five physicians. Misrepresentation therefore existed. Was it material? In ascertaining the true answer, a complete separation of thought must be observed between a disease and some medical or surgical attention either for disease or for an ailment other than a disease. A disease is one thing, medical or surgical attention for an injury or a disease or for an ailment other than a disease is quite a different one, and this court thinks that statement 12 clearly preserved the line of substantial distinction. Ailments, injuries, indispositions, sickness do not necessarily constitute diseases, although disease frequently develops from them. The words "deformity" or "infirmity" as used in connection with applications for insurance are, of course, construed to mean deformities or infirmities of such a substantial character as, if known, would have been liable to deter an insurer from issuing a policy. The same principle must be true respecting medical or surgical attention. The attention to which reference is made in statement 12 must be not for a trivial indisposition but for some substantial illness, sickness, injury or disease. The insurer has the right to know whether the attention was for an ailment inconsiderable or serious. Although no disease may have developed, symptoms which had required medical attention might indicate conditions from which disease might be generated. The plaintiff proved its case prima facie to the effect that the misrepresentation was material when it showed that within five years the defendant had medical attention a dozen times, that at least one medical consultation had been held, that digitalis had been prescribed in July, 1920, and that the defendant was "sick" when he received attention. It could not compel him to waive his privilege arising from his relation to his physicians and force them to disclose the diagnosis and nature of the treatment. He could insist on this privilege, but he could not be heard to claim that no prima facie case had been made out. The plaintiff proceeded as far as the law allowed and far enough, in the absence of denial, to require a finding of material misrepresentation.

Negligence Proved Without Proving Standard of Skill

(Whitson v. Hillis (N. D.), 215 N. W. R. 480)

The Supreme Court of North Dakota, in affirming a judgment in favor of the plaintiff for damages for alleged malpractice, says that the plaintiff sustained a fracture of his right leg above the ankle joint. It was charged that the defendant diagnosed the injury as a fracture of the smaller bone about 3 inches above the ankle joint and of the larger bone about 3 inches above that, but there was no fracture of the latter there, while there was one near the ankle joint, which he failed to discover. It was urged that, as the defendant was sought to be charged with the failure to exercise that degree of diligence and skill which was ordinarily possessed by physicians and surgeons practicing in similar localities and in the same general line of practice as the defendant, it was improper to submit the cause to the jury without expert testimony to establish that standard. There is no question that the general rule is as was contended by the defendant, but this court is of the opinion that where, as here, the defendant admits that he did not discover the fracture, and where he, being the first physician called, had the complete history of the case showing injuries that might well indicate one or more fractures at places other than those regarded by him as the principal locations of injury, and where there was willingness on the part of those who called him professionally to take the plaintiff to a place where a roentgenogram could be had, the better to disclose the extent of the injuries, there was substantial evidence from which the jury could say that the defendant failed to exercise that degree of care in the diagnosis and treatment of the plaintiff's injuries which is to be expected of a physician, regardless of any particular standard.

The jury must be presumed to have some knowledge concerning matters on which physicians may have superior knowledge. They have general knowledge of the efficacy of the roentgen ray and of its desirability as an aid to diagnosis in cases of bone and joint injuries. They have general knowledge of the laws of physics, and may be presumed to know something of the facility with which the relation between a supposedly broken bone and a turning out of a dependent extremity can be determined, at least after swelling has somewhat subsided. In the absence of testimony explaining why a roentgenogram was not desirable in the circumstances and how the failure to have it taken might be consistent with the exercise of a proper degree of care on the part of the physician, the jury is warranted in concluding from general knowledge of the use of the roentgen ray in such cases that the failure to employ it when available was negligence. Then there was unexplained evidence showing a more or less continuous treatment for a fracture of the tibia some 6 inches above the ankle joint from January 1 until March, coupled with the admission of the defendant that the bone was not broken at that point, and his failure to discover it until March. Although the failure to discover the actual fracture at the time and while the injury was fresh might well be accounted for consistently with the exercise of a proper degree of professional skill, leaving the question of the roentgen ray to one side, the unexplained failure to discover the fracture during the period of two months and the continued treatment for a fracture that did not exist for so long a period might well be regarded as inconsistent with the exercise of due care and skill measured according to any supposed professional standard.

On rehearing, the court says that at most the testimony of the defendant amounted to saying that, "suspecting the injury involved the ankle, which indeed was swollen, I bound it up, and this was what should have been done for a fracture." Conceding that this would furnish a sufficient excuse for the failure to treat the fracture during the early period of the injury, there was nothing to explain the failure of the defendant to make sure that any such possible fracture was healed before he advised the patient in February that he might use the leg, or his failure to ascertain the condition before it was discovered by others and made known to him.

This court realizes the possibility of a decision being misunderstood, which supports a recovery in a malpractice case without expert testimony to establish negligence in diagnosis or treatment, and, to guard against possible misconstructions of the original and this opinion, the court deems it proper to say that, as it views the matter, malpractice is merely a branch of the law of negligence. If there becomes involved in such a case a question of negligence that can be determined without resort to expert testimony, such testimony is not essential. Some facts in connection with medical science are so well known as not to require expert testimony to place them before a jury. We must credit common intelligence with knowing that there is a more reliable method than guesswork to determine the existence of a bone fracture; that fractured bones require to be placed in apposition in order to reunite; and that, if the process of knitting is too long delayed, the efforts of nature to effect a union will be thwarted, and more drastic measures will be required to repair the injury. In this court's opinion the evidence was sufficient to support the verdict.

May Abandon Claim and File New One Against Estate

(In re Krueger's Estate (Wash.), 260 Pac. R. 248)

The Supreme Court of Washington says that a physician served his claim for $750 for professional services on the executor of Krueger's estate. The claim was never filed with the clerk of the court. The executor rejected the claim, at the same time stating that the law required the claim to be filed with the clerk of the court as well as with the executor and that in case of its rejection an action must be begun within thirty days after notice of rejection, or be forever barred. The physician apparently abandoned the claim as served but had a new one drawn for $937.96, which was served on the executor and filed with the clerk of the court thirty-one days after the date of the rejection of the first claim. Two days later the executor filed with the clerk the first claim, which he had rejected. Deeming the second claim of no effect because it was served and filed thirty-one days after the rejection of the first one, the executor refused to recognize it or take any action thereon, whereupon a petition was duly filed praying for an order requiring him either to reject or to allow the claim. The court, on hearing, held that there was no authority in law for the second claim, and concluded that both the court and the executor were without jurisdiction to allow the claim or any part of it.

This appeal raised the single question, May a claimant abandon his claim served on an executor or administrator, and rejected by him, and serve and file a new one any time within the six-month period allowed by law to serve and file such claims? The supreme court thinks that the question requires an affirmative answer, although this court has never had the identical question for decision before. The statute (chapter 156, section 107, laws of 1917 of Washington) provides for notice to creditors, and requires the claims to be served on the executor or administrator and filed with the clerk of the court within six months after the first publication. This court has held this to be mandatory. But this court does not think that the right to serve a new claim need rest on the insufficiency of the first one. Every claimant has the full period of six months within which to file his claim. The provision in the statute that suit shall be brought within thirty days after rejection was undoubtedly to facilitate the handling and settling of estates. The executor urged that to permit the filing of a new claim, would prevent the closing of estates, but it is plain from the previous decisions of this court that no new claim can be filed or an old one amended after the expiration of the six-month period, so that there is no possibility of the time for closing estates to be extended.

The instant case, of course, presented a much stronger situation. The physician never filed his claim with the court. Such a claim was not sufficient, therefore, to have been the basis of a suit thereon. Certainly the executor could not make the claim sufficient by filing it on his own initiative, where it was against the wishes of the claimant. But this court holds that a claim, although served and filed may, on rejection by the executor, be abandoned and a new one filed and served, provided always that it be served and filed within the six-month period.

Valid Indictment and Punishment Under Narcotic Act

(Boehm v. United States (U. S.), 21 Fed. R. (2d) 283)

The United States Circuit Court of Appeals, eighth circuit, in affirming a judgment of conviction of defendant Boehm, says that the various counts of the indictment charged that he was a duly licensed and practicing physician, registered under the act of Congress approved Dec. 17, 1914, as amended, and that he sold and distributed certain preparations and derivatives of opium, to wit, morphine sulphate, to various and sundry persons not in pursuance of any written order therefor on a permit issued for that purpose by the commissioner of internal revenue of the United States as required by law; that the different parties to whom sales were alleged in the various counts of the indictment to have been made were not patients of the defendant, nor were they under any restraint; and that the drugs were not dispensed in the regular course of his professional practice as a physician but for the purpose of satisfying the cravings of addicts. In the indictment, direct sales were charged. A prescription may be issued and not filled, and in such instance is no part of a sale. If a sale is charged through the instrumentality of a prescription, it means that the prescription was filled, and a person may take part in a prohibited sale of an opium derivative belonging to another person by unlawfully issuing a prescription to the would-be purchaser. The indictment here charged bad faith on the part of the defendant. This court is satisfied that the indictment was sufficient.

The real crux of this case was the good faith of the defendant as a physician. The case was not one, as this court reads the record, wherein a physician in good faith and as a part of medical treatment and in the interest of humanity prescribed a drug to relieve the patient from pain and suffering incident to addiction. It was rather a cold-blooded carrying along of addicts for long periods of time in order to secure financial reward from participating in the sale of the drugs. These addicts were not under restraint. The prescriptions were not given and the sales made for any good purpose. The defendant, having, as was apparent from the record, pursued a long course of illegal sales, attempted to hide the stain of these numerous transactions under the physician's cloak and garb. The guise was entirely transparent. The alleged prescriptions were such only in name. The method pursued by the defendant was a mere scheme to sell the drugs to unfortunate addicts. It was for the jury to say whether the sales in which he participated by issuing the prescriptions were in good faith. The evidence was sufficient to warrant the jury in finding that there was no good faith in this phase of the defendant's alleged practice.

The suggestion that the punishment was violative of the eighth amendment to the constitution of the United States was wholly untenable. The defendant was sentenced to imprisonment for five years on each of the five counts on which he was convicted, and these terms were to run concurrently. There was no legitimate cause for complaint as to the alleged severity of the punishment.

The constitutionality of the Harrison Narcotic Law was questioned. Of course that question is settled, unless the Supreme Court of the United States overrules its decision in *United States* v. *Doremus*, 249 U. S. 86, 39 S. Ct. 214, and *Webb* v. *United States*, 249 U. S. 96, 39 S. Ct. 217. Apparently in view of the recent decision of that court in *Alston* v. *United States*, 47 S. Ct. 634, decided May 16, 1927, it is not inclined to change the doctrine of those cases that the Harrison Narcotic Law is constitutional.

Society Proceedings

COMING MEETINGS

American Medical Association, Minneapolis, June 11-15. Dr. Olin West, 535 North Dearborn Street, Chicago, Secretary.

Alabama, Medical Association of the State of, Birmingham, April 17-20. Dr. D. L. Cannon, 519 Dexter Avenue, Montgomery, Secretary.

American Association for Thoracic Surgery, Washington, D. C., April 30-May 2. Dr. Ethan Flagg Butler, Sayre, Pa., Secretary.

American Association of Genito-Urinary Surgeons, Washington, D. C., April 30-May 2. Dr. H. L. Kretschmer, 122 S. Michigan Avenue, Chicago, Secretary.

American Association of Pathologists and Bacteriologists, Washington, D. C., May 1-2. Dr. H. T. Karsner, 2109 Adelbert Road, Cleveland, Secretary.

American Bronchoscopic Society, Washington, D. C., April 30. Dr. Louis H. Clerf, 128 South 10th Street, Philadelphia, Secretary.

American Climatological and Clinical Association, Washington, D. C., May 1-2. Dr. A. K. Stone, Auburn Street, Framingham Center, Mass., Secretary.

American Dermatological Association, Washington, D. C. April 30-May 2. Dr. C. Guy Lane, 416 Marlborough Street, Boston, Secretary.

American Gastro-Enterological Association, Washington, D. C., April 30-May 1. Dr. W. J. Mallory, 1720 Connecticut Avenue, N. W., Washington, D. C., Secretary.

American Gynecological Society, Washington, D. C., April 30-May 2. Dr. Floyd E. Keene, Medical Arts Building, Philadelphia, Secretary.

American Laryngological Association, Washington, D. C., May 1-3. Dr. G. M. Coates, 1721 Pine Street, Philadelphia, Secretary.

American Laryngological, Rhinological and Otological Society, Washington, D. C., May 3-5. Dr. R. L. Loughran, 33 East 63d Street, New York, Secretary.

American Neurological Association, Washington, D. C., May 1-3. Dr. Henry A. Riley, 870 Madison Avenue, New York, Secretary.

American Ophthalmological Society, Washington, D. C., April 30-May 2. Dr. Emory Hill, Professional Building, Richmond, Va., Secretary.

American Otological Society, Washington, D. C., April 30-May 1. Dr. T. J. Harris, 104 East 40th Street, New York, Secretary.

American Pediatric Society, Washington, D. C., April 30-May 2. Dr. H. C. Carpenter, 1805 Spruce Street, Philadelphia, Secretary.

American Psychiatric Association, Minneapolis, June 4-8. Dr. Earl D. Bond, 4401 Market Street, Philadelphia, Secretary.

American Psychopathological Association, Minneapolis, June 8. Dr. M. W. Peck, 520 Commonwealth Avenue, Boston, Secretary.

American Radium Society, Minneapolis, June 8-9. Dr. G. Grier, Jenkins Arcade Building, Pittsburgh, Secretary.

American Society of Clinical Investigation, Washington, D. C., April 30. Dr. J. T. Wearn, Boston City Hospital, Boston, Secretary.

American Society of Tropical Medicine, Washington, D. C., May 1-2. Dr. Benjamin Schwartz, P. O. Box 131, Pennsylvania Avenue Station, Washington, D. C., Secretary.

American Surgical Association, Washington, D. C., April 30-May 2. Dr. Lincoln Davis, 205 Beacon Street, Boston, Secretary.

American Urological Association, Chicago, June 7-9. Dr. Alexander Randall, Medical Arts Building, Philadelphia, Secretary.

Arizona State Medical Association, Tucson, April 19-21. Dr. D. F. Harbridge, Goodrich Building, Phoenix, Secretary.

Arkansas Medical Society, El Dorado, May 1-3. Dr. W. R. Bathurst, 810 Boyle Building, Little Rock, Secretary.

Association of American Physicians, Washington, D. C., May 1-3. Dr. J. H. Means, Massachusetts General Hospital, Boston, Secretary.

California Medical Association, Sacramento, April 30-May 3. Dr. Emma W. Pope, 593 Market Street, San Francisco, Secretary.

Conference of State and Provincial Health Authorities, St. Paul, June 8-9. Dr. A. J. Chesley, State Department of Health, St. Paul, Secretary.

Congress of Physicians and Surgeons of North America, Washington, D. C., May 1-2. Dr. W. R. Steiner, 646 Asylum Avenue, Hartford, Conn., Secretary.

Connecticut State Medical Society, Bridgeport, May 23-24. Dr. C. W. Comfort, Jr., 27 Elm Street, New Haven, Secretary.

Georgia, Medical Association of, Savannah, May 9-11. Dr. A. H. Bunce, 139 Forrest Avenue, N. E., Atlanta, Secretary.

Illinois State Medical Society, Chicago, May 8-11. Dr. Harold M. Camp, Lahl Building, Monmouth, Secretary.

Iowa State Medical Society, Cedar Rapids, May 9-11. Dr. Tom B. Throckmorton, Bankers Trust Building, Des Moines, Secretary.

Kansas Medical Society, Wichita, May 8-10. Dr. J. F. Hassig, 804 Huron Building, Kansas City, Secretary.

Maryland, Medical and Chirurgical Faculty of, Baltimore, April 24-26. Dr. John T. King, Jr., 1211 Cathedral Street, Baltimore, Secretary.

Massachusetts Medical Society, Worcester, June 5-6. Dr. Walter L. Burrage, 182 Walnut Street, Brookline, Secretary.

Mississippi State Medical Association, Meridian, May 8-10. Dr. T. M. Dye, Clarksdale, Secretary.

Missouri State Medical Association, Columbia, May 14-17. Dr. E. J. Goodwin, 634 N. Grand Boulevard, St. Louis, Secretary.

Nebraska State Medical Association, Hastings, May 15-17. Dr. R. B. Adams, Center McKinley Building, Lincoln, Secretary.

New Hampshire Medical Society, Manchester, May 15-16. Dr. D. E. Sullivan, 7 North State Street, Concord, Secretary.

New Jersey, Medical Society of, Atlantic City, June 6-9. Dr. J. B. Morrison, 66 Milford Avenue, Newark, Secretary.

New Mexico Medical Society, Albuquerque, May 10-11. Dr. L. B. Cohenour, 219 West Central Avenue, Albuquerque, Secretary.

New York, Medical Society of the State of, Albany, May 21-24. Dr. D. S. Dougherty, 2 East 103d Street, New York, Secretary.

North Carolina, Medical Society of the State of, Pinehurst, April 30-May 2. Dr. L. B. McBrayer, Southern Pines, Secretary.

North Dakota State Medical Association, Devils Lake, May 23-24. Dr. J. G. Lamont, San Haven, Secretary.

Ohio State Medical Association, Cincinnati, May 1-3. Mr. Don K. Martin, 131 East State Street, Columbus, Executive Secretary.

Oklahoma State Medical Association, Tulsa, May 17-19. Dr. C. A. Thompson, 609 Barnes Building, Muskogee, Secretary.

Pacific Coast Oto-Ophthalmological Society, Santa Barbara, April 18-20. Dr. Walter F. Hoffman, 817 Summit Avenue, Seattle, Secretary.

Rhode Island Medical Society, Providence, June 7. Dr. J. W. Leech, 369 Broad Street, Providence, Secretary.

South Carolina Medical Association, Columbia, April 17-19. Dr. E. A. Hines, Seneca, Secretary.

Texas, State Medical Association of, Galveston, May 8-10. Dr. Holman Taylor, Medical Arts Building, Fort Worth, Secretary.

West Virginia State Medical Association, Fairmont, May 21-24. Mr. Joe W. Savage, 303 Professional Bldg., Charleston, Executive Secretary.

Current Medical Literature

AMERICAN

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Titles marked with an asterisk (*) are abstracted below.

American J. Diseases of Children, Chicago

35: 171-356 (Feb.) 1928

*Eosinophil Cells in Blood of Normal and of Asthmatic Children. K. H. Baagøe, Copenhagen, Denmark.—p. 171.

*Intradermal Vaccination. J. A. Toomey and R. B. Hauver, Cleveland. —p. 186.

Cholesterol and Lipoid Phosphorus in Infancy and in Childhood: Normal Incidence in Cord Blood and During Infancy and Early Childhood. M. B. Gordon and D. J. Cohn, New York.—p. 193.

*Urinary Leukocyte Count in Children in Normal and in Pathologic Conditions. L. S. Friedman and A. G. Mitchell, Cincinnati.—p. 201.

*Effect of Thyroid Therapy on Children. A. Topper and P. Cohen, New York.—p. 205.

*Antenatal Infection a Factor in Fetal Morbidity. E. Duskes and E. F. Dodge, Baltimore.—p. 221.

*Pharyngeal Tonsil. W. E. Cooke, Lancashire, England.—p. 229.

*Acute Massive Atelectasis of Lung Complicating Fresh Tuberculous Primary Complex. E. G. Stoloff, New York.—p. 239.

*Pulmonary Gangrene Following Diphtheria. C. T. Olcott and J. G. Merselis, New York.—p. 250.

Patent Ductus Arteriosus, Hematoma of Left Suprarenal Gland, Meningeal Hemorrhages and Diverticulum of Ileum. A. V. Scott, Tsinan, Shantung, China.—p. 254.

*Abscess of Brain in Infants Under Twelve Months of Age. H. N. Sanford, Chicago.—p. 256.

Fate and Development of Immature and of Premature Child. A. Capper, Philadelphia.—p. 262.

Eosinophils in Blood of Children.—From Baagøe's study it is apparent that the number of eosinophils in the blood of normal children varies. Different observers have found values from 0 to 12 per cent; the percentage of eosinophils most frequently found, however, was approximately 3. Differential counts were made by Baagøe in 124 asthmatic persons: ninety-two children and thirty-two adults. A number of serial counts showed that as a rule the age of the children did not seem to have any bearing on the degree of eosinophilia.

Intradermal Vaccination.—Experience with about 9,000 intradermal vaccinations made with 1 cc. of a 1:4 dilution of vaccine, physiologic sodium chloride solution being the diluent in all instances, has convinced Toomey and Hauver that this is the most efficient method of vaccination.

Urinary Leukocyte Count of Children.—Friedman and Mitchell attempt to define the normal and pathologic urine of children in terms of the cell content per cubic millimeter. About 530 determinations were made on the urine of infants and children ranging in age from a few weeks to 13 years. The urine of apparently healthy infants and children contained an average of 10 pus cells per cubic millimeter. Ninety per cent of the urine showed 20 cells or less. The urine of infants and children suffering from various respiratory, intestinal or other infections frequently showed a varying degree of pyuria in excess of the normal. In cases of pyelitis and nephritis, the counts were definitely higher than in any other conditions studied. Leukocyte counts in the urine which show more than 20 but less than 40 cells per cubic millimeter are suggestive of urinary infection but may readily occur in concentrated urine and in acute febrile

diseases. Leukocyte counts of more than 40 per cubic millimeter point strongly to infection somewhere along the urinary tract if vaginitis has been excluded.

Effect of Thyroid Therapy on Children.—The effect of thyroid therapy on normal children and on a small series of children showing hypothyroidism was studied by Topper and Cohen. Thyroid extract in relatively large doses does not seem to have any effect on the basal metabolism of normal children, but four children, whose measurements were followed carefully, showed a remarkable increase in growth during this period. These facts raise the question in the authors' minds whether the basal metabolic rate should be the only criterion of the efficacy of thyroid therapy in normal persons, since the thyroid gland is concerned with so many other metabolic processes. Is it not conceivable that the basal metabolism may remain unaffected in children, while other metabolic processes are influenced by thyroid therapy? The theory that they have evolved to explain the difference between thyroid action in the normal adult and in the normal child is that thyroid, a metabolic catalyst, increases the phase of metabolism which is dominant in the individual: anabolic, or growth processes, in the child, and catabolic, or oxidative processes, in the adult. This is in line with Kendall's opinion that thyroxin speeds metabolism in the direction in which it is going.

Antenatal Infection a Factor in Infant Mortality.—Two cases of pneumococcic infections are reported by Duskes and Dodge. One occurred during a pneumococcic puerperal septicemia and produced a similar bacteremia in the fetus. In the second case, the mother is living and well, but the dead-born fetus showed an old syphilitic fibrous peritonitis on which a recent pneumococcic infection was superimposed. During pregnancy, the mother had a sore throat one week before delivery. During the puerperium when cultures were taken, pneumococci were isolated among other organisms. This case and others recorded bring out in a pronounced manner the fact that maternal bacterial carriers at times produce relatively little if any ill effects; yet by lowering the general resistance, the status of the fetus at times is influenced extremely unfavorably. A review of the literature and these two cases bring to the forefront the importance of the maternal prenatal care. Even such momentarily insignificant minor disabilities as sore throats and colds should receive the most careful attention.

Pharyngeal Tonsil.—Cooke presents the results of his research on the embryology, bacteriology and pathology of the pharyngeal tonsil.

Acute Massive Atelectasis.—Stoloff reports the case of a girl, aged 2 years, who suffered acute massive atelectasis of the lung resulting from extrabronchial, as well as intrabronchial, causes. The basic cause of the atelectasis was the enlargement of the regional lymph nodes caused by a fresh primary tuberculous complex, this enlargement being marked enough to occlude the already inflamed bronchus, with subsequent atelectasis of the lung. Study of all the clinical details emphasizes the fact that the most important and valuable single adjunct in the diagnosis either of acute massive atelectasis of the lungs or of the primary tuberculous complex is roentgen-ray examination, including fluoroscopy.

Pulmonary Gangrene Following Diphtheria.—A case of pulmonary gangrene following acute diphtheria in a previously healthy colored girl, aged 15, is reported by Olcott and Merselis. The symptoms were suggestive of gangrene for only forty hours before death; practically no sputum was raised. At autopsy, the lower two thirds of the right lung was completely gangrenous. Mixed flora in the lung included diphtheria bacilli, nonhemolyzing streptococci, staphylococci and Vincent's fusiform and spirillar organisms. The authors failed to find a similar case on record.

Abscess of Brain in Infants.—Sanford's patients were aged 3 months and 6 weeks, respectively. The first died after a six weeks' illness, in spite of aspiration of about 3 ounces (90 cc.) of pus from the corpus callosum. Autopsy disclosed multiple abscesses in the brain but not a sign of an infective process elsewhere in the body or anything else noteworthy. The second patient was treated with an autogenous vaccine and died after about five weeks of illness. Autopsy showed an immense abscess in the right cerebral hemisphere but not any other cause elsewhere in the body. Seventeen cases from the literature are reviewed.

American Journal of Psychiatry, Baltimore

7: 183-389 (Sept.) 1927

Epinephrine Glycemic Curve as Diagnostic Aid in Psychiatry. H. Gordon, J. M. Ostrander and S. Counsell, Kalamazoo, Mich.—p. 183.
Experimental Convulsions: Permeability Changes. H. C. Syz, Baltimore.—p. 209.
Narrowing of Gap Between Functional and Organic. W. A. White, Washington, D. C.—p. 221.
Bodily Structure, Personality and Reaction Types. C. B. Farr, Philadelphia.—p. 231.
Analysis of Case of Dissociation Combined with Phobias and Compulsions. L. Dooley, Washington, D. C.—p. 245.
Plan and Value of Affiliative Nursing at Boston Psychopathic Hospital. C. A. Bonner, Boston.—p. 269.

7: 391-546 (Nov.) 1927

Study of Endocrine Organs in Psychoses. B. D. Lewin, New York.—p. 391.
Functioning of Division of Neuropsychiatry in General Hospital. T. J. Heldt, Detroit.—p. 459.
Neurotic Behavior and Teaching of Conditioned Reflexes. A. G. Ivanov-Smolensky, Leningrad.—p. 483.
Simple Thermotherapeutic Technic: Fever Treatment of Neurosyphilis. A. J. Rosanoff, Los Angeles.—p. 489.
Need for Cooperation Between Legal Profession and Psychiatrist in Dealing with Crime Problem. W. A. White, Washington, D. C.—p. 493.
Biologic and Pathologic Aspects of Behavior Disorders. H. M. Adler, Chicago.—p. 507.

American Journal of Surgery, New York

4: 113-244 (Feb.) 1928

*Physical Agents in Treatment of Bladder Tumors. E. Beer, New York.—p. 113.
Treatment of Genital Tuberculosis. E. L. Keyes, New York.—p. 133.
Comparative Value of Various Blood and Urine Examinations in Urinary Surgery. H. G. Bugbee, New York.—p. 135.
*Tissue Cultures in Two Cases of Interstitial Cystitis. C. Y. Bidgood, Hartford, Conn.—p. 140.
*Stillbirths in Long Island College Hospital Maternity Service in 1926. J. O. Polak and D. Beres, New York.—p. 143.
Practical Application of Local Anesthesia in Major Surgery. J. L. DeCourcy, Cincinnati.—p. 155.
*Surgical Aspects of Medical Conditions. J. E. Jennings, New York.—p. 160.
*Legg-Calvé-Perthes' Disease (Osteochondritis Juvenilis Deformans Coxae): Pathology and Pathogenesis. A. P. Zemansky, Jr., New York.—p. 169.
Id.: Operative Treatment. R. Whitman, New York.—p. 185.
*Apparent Recovery from Multiple Sarcoma of Bone and Soft Parts Treated by Coley's Serum. S. L. Christian and L. A. Palmer, Stapleton, N. Y.—p. 188.
Values of Physical Therapy in Clinic. J. C. Elsom, Madison, Wis.—p. 198.
Treatment of Benign Prostatic Hypertrophy. G. H. Ewell, Madison, Wis.—p. 201.
Tests of Liver Function. H. E. Marsh, Madison, Wis.—p. 206.
Acute Cellulitis of Hypopharynx and Neck with Extension to Mediastinum. S. F. Marshall, Detroit.—p. 214.
Lymphosarcoma: Primary in Inguinal Glands. A. B. McGraw, Detroit.—p. 218.
Cyst of Prostate with Congenital Absence of Right Kidney. F. W. Roberts, New Haven, Conn.—p. 221.
Sarcoma of Long Bones. W. B. Coley, New York.—p. 223.

Physical Agents in Treatment of Bladder Tumors.—Beer reviews his experience in the treatment of more than 400 bladder tumors with physical agents, such as: (1) various modalities of the high frequency currents through the cystoscope; (2) use of these currents through the opened bladder combined with alcohol to prevent implantations; (3) resections of the bladder with the radio-knife actuated by a very rapidly oscillating (1,200,000) high frequency current; (4) use of radium seeds (emanations) (*a*) through the cystoscope, (*b*) through the open bladder, and (5) deep roentgenotherapy. It is evident that the results accruing from the use of these agents are steadily getting better, thus warranting their use.

Streptococcus Causes Interstitial Cystitis?—Bidgood reports the growth in pure culture of a streptococcus from the tissue removed at operation in two cases of interstitial cystitis. The same organism was obtained from the two cases.

Analysis of Causes of Stillbirth.—In the thirty-nine cases analyzed by Polak and Beres, complications of labor stand out as the most important single cause of fetal death (30

per cent); syphilis comes next with 28 per cent; antepartum hemorrhages third with 10 per cent, and toxemia fourth with 7.7 per cent.

Surgical Aspects of Medical Conditions.—Jennings insists that if surgery is decided on in the chronic medical case, it is to be very definitely carried on as an incident in the medical care of the case.

Cause of Legg-Calvé-Perthes' Disease.—The resected head of the femur is described by Zemansky in a typical case of Perthes' disease. The pathologic criteria for the diagnosis of Perthes' disease are enunciated. Eleven other instances of pathologic examinations of heads of the femur in Perthes' disease are abstracted. The various processes held accountable for Perthes' disease are reviewed and evaluated from the pathologic data. The theory of vascular disturbance of the femoral epiphysis from trauma is considered the most likely one to explain the pathogenesis of the disease.

Sarcoma with Metastases; Coley's Serum; Apparent Recovery.—Christian and Palmer report a case of endothelial myeloma of the tibia with involvement of both bone and soft parts in which an amputation was done through the middle of the thigh. Metastases appeared in the femur, skull, clavicle and skin. Treatment by the toxins of erysipelas and *Bacillus prodigiosus* (Coley) was followed by an apparently complete recovery.

American Journal of Syphilis, St. Louis

12: 1-156 (Jan.) 1928

Physician's Danger in Treating Patients Who Have Syphilis. C. M. Whitney, Boston.—p. 1.
Treatment of Syphilis. J. B. Clark, New York.—p. 10.
*Lymphadenitis of Tertiary Syphilis. C. L. Cummer, Cleveland.—p. 13.
*Syphilis and Epilepsy. H. A. Patterson, Sonyea, N. Y.—p. 41.
*Syphilis of Stomach. C. Herman, Subotitza, Jugoslavia.—p. 49.
Sodium Thiosulphate and Its Therapeutic Field in Syphilis. L. G. Beinhauer, Pittsburgh.—p. 55.
Sodium Thiosulphate in Wassermann-Fast Syphilis. L. G. Beinhauer, Pittsburgh.—p. 61.
Histologic Structure of Syphilitic Lesions of Rabbits. P. S. Gregoriew and K. G. Jarisheva, Saratow, Russia.—p. 67.
*Micro-Kahn Test in Syphilis. R. A. Kilduffe and W. W. Hersohn, Atlantic City, N. J.—p. 82.
*Kahn Test on Spinal Fluid. T. G. Hull, L. Fry and C. Garwood, Springfield, Ill.—p. 104.
Study of Kahn Precipitation Method for Serum Diagnosis of Syphilis. M. A. Wilson, R. M. Nedley and F. Honig, New York.—p. 111.
Laboratory Diagnosis of Syphilis. I. Davidsohn, Philadelphia.—p. 122.
*Lipoid Extracted from Scallops Possessing Antigenic Properties in Wassermann Reaction. E. S. Sanderson, University, Va.—p. 136.

Lymphadenitis of Tertiary Syphilis.—Three cases are reported by Cummer and the literature regarding eighty-six cases is reviewed and analyzed. Among mistaken diagnoses, tuberculosis has been the most conspicuous pitfall, with Hodgkin's disease ranking second. Absolute reliance cannot be placed on the therapeutic test in differential diagnosis. Cummer emphasizes the fallacy of regarding cervical adenitis as tuberculosis or the enlargement of several groups of glands as Hodgkin's disease until syphilis has been excluded.

Syphilis and Epilepsy.—On reviewing the reports of 2,240 blood Wassermann tests done on epileptic patients, Patterson found that only forty-one patients, or about 1.80 per cent, have given a four-plus reaction. In the group of syphilitic epileptic patients, syphilis appeared much more frequently as an incidental element than as a causal factor. In those instances in which it assumes an etiologic rôle, the syphilis precedes the epilepsy; in those instances in which it appears as an incidental element, the syphilitic infection is, as far as could be ascertained, likely to run its course independently of the epilepsy. In the former, even antisyphilitic treatment seems decidedly beneficial in ameliorating the consequent convulsive disorder. In the latter event, the effect of such treatment on the course of epilepsy is very dubious.

Syphilis of Stomach.—In order to express in a few words how syphilis of the stomach may be recognized, Herman says: The stomach has a cancer, but not the patient. Together with laboratory results, which pointed to cancer of the stomach, there were relatively favorable clinical symptoms, lack of cachexia, and of bleeding, and improvement after antisyphilitic treatment.

Value of Micro-Kahn Test.—A report of 2,116 comparative micro-Kahn and Kolmer tests is presented by Kilduffe and Hersohn as a result of which it is concluded that the micro-Kahn test is a satisfactory additional method for the serologic study of syphilis. The suitability of the Kahn test as an exclusive method for the serologic study of syphilis is discussed, and the conclusion is reached that it should be used in conjunction with, and not in place of, the Wassermann test.

Value of Kahn Test on Spinal Fluid.—Hull et al. conclude that the Kahn test has a high degree of specificity in eliminating the possibility of cerebrospinal syphilis.

Antigen Prepared from Scallop Muscle.—In a small series of tests an antigen prepared from an alcoholic extract of a nonmammalian tissue, scallop muscle, is shown by Sanderson to have been as effective in the detection of syphilitic serums in the Wassermann reaction as one prepared from beef heart. More so-called nonspecific reactions were obtained with the cholesterolized scallop than with the corresponding beef heart antigen, but in view of the numerous suggestive histories obtained from patients constituting this group it is difficult to say just how many may not have been something other than nonspecific. Of particular interest is a case which on admission came under this category, but which on readmission one year after the tests were made was recognized as congenital syphilis, although the routine Wassermann reaction was negative on both occasions.

Annals of Internal Medicine, Ann Arbor, Mich.

1: 535-635 (Feb.) 1928

*Thrombo-Angiitis Obliterans. I. Clinical History. E. V. Allen and G. E. Brown, Rochester, Minn.—p. 535.
*Id.: II. Treatment and Prognosis. E. V. Allen and G. E. Brown, Rochester, Minn.—p. 550.
*Effect of Cholecystectomy on Gastric Acidity. H. R. Hartman and A. B. Rivers, Rochester, Minn.—p. 558.
Embryohormonic Relations of Pituitary Gland to Mesenchymal Tissues. R. C. Moehlig, Detroit.—p. 563.
Nature of Primary Renal Lesion Produced by Lead. S. Pejic, Belgrade, Jugoslavia.—p. 577.
Hookworm Disease Causing Blood Picture of Primary Hemolytic Anemia in Infant. W. Allan, Charlotte, N. C.—p. 605.
*Effect of Insulin on Carbohydrate Tolerance. W. M. LeFevre, Muskegon, Mich.—p. 607.
*Addison's Disease in Association with Amyloidosis. N. W. Philpott, Ann Arbor.—p. 613.

Thrombo-Angiitis Obliterans.—Two hundred cases of thrombo-angiitis obliterans in men have been studied by Allen and Brown. The pathologic studies were made on thirty amputated limbs and eight resected veins, and the observations were essentially those described by Buerger except in two respects: The evidence of acute inflammation was extremely rare. Proliferation of the intima was found which seemed out of proportion to the age of the patient. It is felt that these intimal changes may be prethrombotic. Thrombo-angiitis obliterans is apparently a disease of infectious origin. Bacteriologic investigations were made on veins which were clinically acute or subacute but no specific organisms were demonstrated.

Treatment of Thrombo-Angiitis Obliterans.—Allen and Brown state that additional experience with thrombo-angiitis obliterans has tended to favor conservative treatment. Close cooperation of the medical and surgical staff has made possible amputations at a lower level and successful healing of trophic lesions. Amputation has been averted in many cases by carefully and persistently carrying out medical and physical measures for long periods. The control of pain by the injection of foreign proteins, and the induction of vasodilatation, by lumbar ganglionectomy in carefully selected cases, have likewise reduced the number of amputations. The recognition of this disease in the early stages is of utmost importance, as gangrene and similar serious sequelae can be prevented in a large number of cases when the vascular nature of the disease is understood.

Effect of Cholecystectomy on Gastric Acidity.—It seems obvious from the study made by Hartman and Rivers that gastric acidity is not consistently altered in any one direction by cholecystectomy. From a study of averages with the

probable error, there is no change in the free hydrochloric acid before and after cholecystectomy. It may be concluded that cholecystectomy does not alter gastric acidity. Exception to this statement may logically be taken when it is considered that the postoperative titrations were taken when the patients were still sick following cholecystectomy, and some pathologic process may have been present to affect the acidity; yet with such an even distribution of increased and decreased acidity after operation, the objection would be illogical.

Effect of Insulin on Carbohydrate Tolerance.—LeFevre presents additional evidence that in the absence of complications adult diabetic persons gradually improve their tolerance for carbohydrate, many of them to the extent that insulin is no longer required.

Addison's Disease with Amyloidosis.—Philpott reports a case of Addison's disease with marked amyloid deposits in the suprarenals, sympathetic semilunar ganglions, and nerve trunks. The amyloidosis was generalized, and associated with a combined tuberculous and syphilitic infection.

Archives of Otolaryngology, Chicago

7: 103-200 (Feb.) 1928

Abscess of Lung: Medical Aspect. T. McCrae, Philadelphia.—p. 103.
Id.: Surgical Aspect. W. Meyer, New York.—p. 107.
Id.: Roentgenologic Aspect. W. F. Manges, Philadelphia.—p. 113.
*Id. Laryngologic Aspect. J. H. Bryan, Washington, D. C.—p. 119.
*Id. Bronchoscopic Aspect. G. Tucker, Philadelphia.—p. 123.
External Operation on Frontal Sinus. W. Mithoefer, Cincinnati.—p. 133.
Mucocele of Accessory Nasal Sinuses: Two Cases. C. A. Heatly, Rochester, N. Y.—p. 150.
*Intratracheal Inhalation Anesthesia for Operations on Head and Neck. P. J. Flagg, New York.—p. 156.
Otalgia from Abscess of Tongue Controlled by Cocainization of Nasal Ganglion. F. K. Hansel, St. Louis.—p. 165.
*Acriviolet Treatment of Vincent's Angina. R. G. Reaves, Knoxville, Tenn.—p. 166.
Anatomy and Physiology of Ear. P. Meltzer, Boston.—p. 167.

Upper Air Passages as Source of Lung Suppurations.—Bryan is convinced that the upper air passages, that is, the oral cavities and the pharynx, with the tonsils, carry many forms of bacteria, and that the nose with the accessory cavities and the nasopharynx may be found to be the source of many suppurative inflammations of the bronchial tubes and lungs.

Bronchoscopy in Lung Suppurations.—Tucker cites three cases in support of the value of bronchoscopy in the diagnosis and treatment of suppurative pulmonary lesions.

Intratracheal Inhalation Anesthesia.—Flagg feels that the adoption of intratracheal inhalation is calculated to change the complexion of operations on the upper air passages by reducing the customary tension and haste of these operations; by insuring full, continuous, unobstructed respiration which results in a lowered blood pressure and the reduction of bleeding at the operative site, and by preventing the accidental aspiration of blood, vomitus, mucus, sponges, tissue and teeth during operation, thereby protecting the patient from postoperative pulmonary abscesses.

Treatment of Vincent's Angina.—Reaves recommends the use of a 2 per cent solution of a mixture of acriflavine and gentian violet, equal parts, in the treatment of Vincent's angina. He says that one application a day will relieve the patient of pain in about two days, and will effect a cure in about five days. In his experience this has been a specific treatment for Vincent's angina.

Association American M. Colleges Bulletin, Chicago

3: 97-192 (April) 1928

*Teaching of Obstetrics. W. W. Chipman, Montreal.—p. 97.
*Teaching of Medicine. J. C. Meakins, Montreal.—p. 108.
Teaching of Physical Diagnosis. D. Graham, Toronto.—p. 115.
*Teaching of Internal Medicine Along "Phylogenetic" Lines. C. P. Emerson, Bloomington-Indianapolis.—p. 119.
*Present Tendencies in Medical Practice. H. G. Weiskotten, New York.—p. 130.
*Periodic Health Examination of Medical Students. H. S. Diehl, Minneapolis.—p. 144.
Relation of Liberal Arts College to Professional Schools. E. P. Lyon, Minneapolis.—p. 152.
Formal Use of Hippocratic Oath for Medical Students at Commencement Exercises. E. J. Carey, Milwaukee.—p. 159.

Teaching of Obstetrics.—Chipman says: Teaching is a vital, and all important business. And there are three terms to this great equation: (1) the teacher; (2) the student; (3) the curriculum. And these three terms demand a right proportion of consideration. Oddly enough, it is the third term of this equation—the curriculum—that we labor most, labor and belabor; rather neglecting, or losing sight of, the other two, the all important two: the teacher and the student. A good teacher is the school's greatest asset, for he and his fellows are the university itself. I suggest that we have fewer teachers, say half the number, and that we carefully select and train them. There are far too many demonstrators in every medical school. While demanding more, we must be prepared to give more in the way of academic status, and even actual remuneration. There is no sufficient reason why a medical school should be altogether a philanthropic institution. I believe in competitive teaching, and I would encourage it in the so-called "extramural" teacher. There is nothing like competition, even in the business of teaching, to "get results."

Teaching of Medicine.—The ideal teacher in medicine should be one with a sound critical experience in clinical medicine. He should know men and humanity. He should also be well grounded in pathology, physiology, pharmacology, biochemistry and—if it is not asking too much—have a working knowledge of biometrics, biophysics and biology; but, the greatest of all these is his knowledge of clinical medicine. All discussion of the teaching of medicine is futile unless such teachers can be produced.

Selection of Students; Their Training.—Emerson suggests that we be more careful to select for our medical classes those students who, we believe, have the gift of medicine, have heard the call, and have the spirit of self-sacrificing service; that we initiate them at once into the problems of internal medicine, and then teach them the various methods afforded by the preclinical sciences of solving these problems; and, finally, that we talk less about the medical curriculum and set our students a much better example by practicing better what we preach.

Specialization in Medicine.—Weiskotten is convinced that there seems to be a definitely increasing tendency toward specialization and toward the full-time salaried position in medicine. These tendencies are undoubtedly in response to opportunities offered and demands made by society on the medical college graduates. It is extremely important that society be so educated that these demands will be in the best interest of the individual and society as a whole.

Health Examination of Minnesota Students.—During the fall of 1926 a health examination was required of every student in the Medical School of the University of Minnesota. An appointment of one hour was given for each examination, prior to which the student had filled out the "history blank" and had submitted to various tests, measurements and laboratory work. Although the primary work of the examination was educational, Diehl says, numerous physical defects and abnormalities of greater or less importance were discovered. The replies to a questionnaire given to each student after all the examinations had been completed indicated a very general interest in and endorsement of the procedure; 88 per cent of the students stating that in their opinions health examinations should be required of medical students at least once a year. The annual health examinations of medical students, properly performed, should serve not only to discover physical defects and to instruct students in regard to improving their habits of living, but also should prove a most effective method of educating them to conduct similar examinations.

Boston Medical and Surgical Journal

197: 1537-1598 (Feb. 16) 1928

Thymus Obsession. J. L. Morse, Boston.—p. 1547.
*Use of Salicylates in Treatment of Chronic Epidemic Encephalitis. S. H. Epstein, R. K. Farnham and S. Cobb, Boston.—p. 1522.

Use of Salicylates in Chronic Epidemic Encephalitis.—Epstein et al. have not obtained any striking benefit from intravenous injections of sodium salicylate in twelve cases of chronic encephalitic parkinsonism. On account of local

injury to the veins, it is suggested that the oral method of administration of salicylates be tried in the future. There is evidence that acute epidemic encephalitis is benefited by salicylate therapy.

Canadian Medical Association Journal, Montreal

18: 135-254 (Feb.) 1928

*Innervation and Tumor Growth. H. Oertel, Montreal.—p. 135.
Treatment of Gastric Ulcer. R. H. M. Hardisty, Montreal.—p. 140.
Liver as Organ of Sanguification. J. D. Adamson, Winnipeg.—p. 147.
*Endometriosis: Thirty Cases. J. W. Shirer, Toronto.—p. 151.
Chronic Cholecystitis. W. Magner, Toronto.—p. 155.
*Nephrosis of Thyroid Origin. J. R. Davidson, Winnipeg.—p. 161.
Splenomegaly in Banti's Disease and in Hyperplastic Lymphatic Splenomegaly. G. A. B. Addy, Saint John, N. B.—p. 165.
*Two Fatal Cases of Poisoning by Methyl Salicylate. F. V. Woodbury, Halifax, N. S., and A. G. Nicholls, Montreal.—p. 167.
Problem of Child with Hare-Lip and Cleft-Palate. J. D. McEachern, Winnipeg.—p. 170.
Surgical Complications of Typhoid in Child. C. K. P. Henry, Montreal.—p. 174.
Kielland Forceps. W. R. Patterson, Toronto.—p. 177.
Surgical Tuberculosis in Children. D. M. Meekison, Vancouver.—p. 180.
Dental Anesthesia. E. Blatchford, Toronto.—p. 183.
Case of Primary Carcinoma of Lung. C. W. MacMillan, River Glade, N. B.—p. 186.
Rupture of Coracoclavicular Ligaments. A. W. Hogg, Winnipeg.—p. 187.
Some Historical Aspects of Pernicious Anemia. H. C. Jamieson, Edmonton, Alta.—p. 188.
Clinical Examination of Blood. L. C. Montgomery, Montreal.—p. 201.

Innervation and Tumor Growth.—Oertel asserts that tumors have their own blood supply and hence the conception of "independence" and "autonomy" in tumor cells will have to be modified.

Endometriosis of Cecum.—The occurrence of this condition on the cecum, Shirer says, has brought to mind the probability that some cases diagnosed as adenocarcinoma of the large bowel, more especially of the cecum and the rectosigmoid, and which have outlived the expectancy of carcinoma, are probably cases of endometriosis.

Nephrosis of Thyroid Origin.—Davidson reports three cases: (1) an uncomplicated case of thyroid nephrosis of long standing, materially improved by thyroid treatment; (2) a case which did not respond to thyroid treatment alone, but with the addition of Collip's parathyroid extract yielded readily and was controlled afterward with thyroid extract, and (3) a case of nephrosis associated with pregnancy, in which after four unsuccessful pregnancies, the fifth, controlled by thyroid medication, was successfully terminated with the birth of a normal child.

Poisoning by Methyl Salicylate.—Woodbury and Nicholls relate the case of a man who died as the result of drinking methyl salicylate (oil of wintergreen). The only symptom manifested was vomiting. The second patient was a child. It vomited and had convulsions. Pathologically, the outstanding features in these cases were acute degenerative parenchymatous nephritis, acute gastritis, intense congestion and edema of the lungs, and multiple small hemorrhages in the pericardial membrane, the pleurae and subdurally. The convulsions and the paretic manifestations would appear to be explained by vascular disturbances in the cerebral cortex.

Journal of Clinical Investigation, Baltimore

5: 161-392 (Feb. 20) 1928

*Circulatory Adjustment in Anemia. D. W. Richards, Jr., and M. L. Strauss, New York.—p. 161.
*Surface Tension of Blood Serum in Hyperthyroidism. E. G. Nicholls and G. A. Harrop, Jr., Baltimore.—p. 181.
*Plasma Fats and Iodine Absorption Capacity of Fatty Acids in Hyperthyroidism. E. G. Nicholls and W. A. Perlzweig, Baltimore.—p. 195.
Cardiodynamic Changes in Aorta and Left Ventricle Due to Stenosis of Aorta. L. N. Katz, E. P. Ralli and S. N. Cheer, Cleveland.—p. 205.
*Blood Volume in Fever. H. C. Soule, Boston, T. E. Buckman and D. C. Darrow, St. Louis.—p. 229.
Blood Volume in Normal Infants and Children. D. C. Darrow, St. Louis, H. C. Soule, Boston, and T. E. Buckman, St. Louis.—p. 243.
*Effects of Various Treatments on Calcium and Phosphorus Metabolism in Tetany: I. Chronic Juvenile Tetany. S. H. Liu, Peking.—p. 259.
*Id.: II. Chronic Adult Idiopathic Tetany. S. H. Liu, Peking.—p. 277.
*Gastric Acidity: Relation to Age and Physical Fitness. A. L. Bloomfield, San Francisco, and C. S. Keefer, Baltimore.—p. 285.
Gastric Motility and Volume of Gastric Secretion in Man. A. L. Bloomfield, San Francisco, and C. S. Keefer, Baltimore.—p. 295.
Comparative Study of Rotatory and Reducing Properties of Plasma Ultrafiltrates from Diabetic and Nephritic Patients. J. R. Paul, Philadelphia.—p. 303.
Effect of Cardiac Irregularity on Circulation: I. Relation of Pulse Deficit to Rate of Blood Flow in Artificial Auricular Fibrillation and Regular Tachycardia. H. J. Stewart, J. H. Crawford and A. R. Gilchrist, New York.—p. 317.
Id.: II. Estimation of Cardiac Output in Dogs Subject to Artificial Auricular Fibrillation. H. J. Stewart and A. R. Gilchrist, New York.—p. 335.
Velocity of Blood Flow: IX. Pulmonary Circulation Time, Velocity of Venous Blood Flow to Heart and Related Aspect of Circulation in Cardiovascular Disease. H. L. Blumgart and S. Weiss, Boston.—p. 343.
Id.: X. Relation Between Velocity of Blood Flow, Venous Pressure and Vital Capacity of Lungs in Cardiovascular Disease, and Normally. H. L. Blumgart and S. Weiss, Boston.—p. 379.

Circulatory Adjustment in Anemia.—Studies of cardiac output and certain other functions of the circulation were conducted by Richards and Strauss on eight subjects suffering from various types and degrees of anemia, the observations on each individual having been made during the anemic state and after partial or complete recovery. A slightly modified Field-Bock method for measuring cardiac output, with portable apparatus, is described.

Surface Tension of Blood Serum in Hyperthyroidism.—Examination of forty-four cases showed that the surface tension of the blood serum is lower than normal in many cases of thyroid intoxication. This is associated with a diminished time drop at the end of two hours, when compared with that present in the serum of normal persons. Nicholls and Harrop found that the administration of iodine in the form of compound solution of iodine has an appreciable effect in increasing the lowered surface tension. After operation involving the partial removal of the thyroid gland, there is a tendency for the surface tension of the serum to rise even more than after the administration of iodine.

Fatty Acids in Hyperthyroidism.—Data are presented by Nicholls and Perlzweig on the distribution of the fatty acids and their relative degree of unsaturation (iodine number) in the blood plasma of eleven normal persons and in sixteen cases of hyperthyroid disease before and after iodine therapy. The total fatty acids of the plasma are markedly decreased in the untreated cases and the iodine number of these acids is greatly increased. These changes appear to be due not to an increase in the unsaturated fatty acids but to a decrease in the saturated acids. Under iodine treatment and after operation, coincident with the lowering of the basal metabolic rate, the total fat concentration rises and the iodine number drops to normal because of an absolute increase in the saturated fat content of the plasma. The cholesterol content of the plasma is low in the more severe cases of hyperthyroid intoxication. It rises with the increase of the saturated fatty acids as the clinical symptoms improve, and the basal metabolic rate returns to normal under iodine treatment and operation.

Blood Volume in Fever.—The blood volumes and blood chlorides of febrile children are reported on by Soule et al. Three children had typhoid, seven, pyelitis, and twenty, primary pneumonia, and one each had thoracic empyema, influenza, tuberculous meningitis and encephalitis. In fever, there was a slight to moderate increase in the plasma volume, which was usually accompanied by a proportional increase in the water held diffusely throughout the body. Although the lungs are one of the chief organs of water excretion, the inflammation in primary pneumonia of children does not seem to bring about any changes in the water metabolism that are different from those seen in other fevers. The data concerning the plasma chlorides in febrile conditions other than pneumonia, though incomplete, suggest that there is a tendency to a low concentration of the plasma chlorides in fever in general. In fever, a lowering of the concentration of the cell chlorides tends to occur when there is a lowering of the concentration of the plasma chlorides. The retention of water in the plasma and throughout the body during pneumonia is great enough to explain the low chloride concentration of the plasma, the lack of an increased chloride concentration elsewhere in the body and the storage of chlorides during fever.

Calcium and Phosphorus Metabolism in Chronic Juvenile Tetany.—Liu reports on the effects of various treatments on the calcium and phosphorus metabolism in two cases of chronic juvenile tetany. Merely increasing the intake of cal-

cium did not relieve the symptoms nor raise the blood calcium, although from 50 to 60 per cent of the intake may be retained. Hydrochloric acid gave a transient rise of blood calcium with slight relief of symptoms in one case, but failed to do so in the other case. It tended to deplete calcium from the body stores. The rise of blood calcium with relief of symptoms following parathyroid extract injections is prompt and marked. There is no increased excretion of calcium either in the urine or the feces. In fact, the retention of calcium tends to increase slightly. The effect of cod liver oil is similar to that of parathyroid extract, but more lasting. In addition there is a marked increase in the retention of calcium, especially when the calcium intake is limited. It seems to be the most efficient treatment in this type of tetany.

Chronic Adult Idiopathic Tetany.—An unusual case of chronic tetany in a Chinese man, aged 46, unassociated with alkalosis or removal of the parathyroids, is reported by Liu. Epileptic fits and intestinal disturbances were accompanying features. Of all the treatments instituted, only parathyroid extract gave relief of symptoms and elevation of blood calcium. When the blood calcium approached normal, there was an increased retention of calcium, but when it rose above normal a decrease retention occurred. Cod liver oil, ultraviolet irradiation, kaolin, calcium chloride and hydrochloric acid were all ineffective. The lack of response to all other treatments except the parathyroid extract is taken to indicate a probable primary parathyroid deficiency as the cause of tetany in this case.

Gastric Acidity.—A study was made by Bloomfield and Keefer of the acidity of the undiluted gastric juice after a constant stimulus in a miscellaneous group of patients, none of whom, however, had organic disease of the stomach. Their observations indicate that as people grow older, they tend to secrete a less acid gastric juice.

Journal of Experimental Medicine, Baltimore

47: 345-491 (March 1) 1928

Factors Determining Localization of Chicken Tumor Agent. R. D. Mackenzie and E. Sturm, New York.—p. 345.
Effect of Digests of Pure Proteins on Cell Proliferation. L. E. Baker and A. Carrel, New York.—p. 353.
Effect of Liver and Pituitary Digests on Proliferation of Sarcomatous Fibroblasts of Rat. L. E. Baker and A. Carrel, New York.—p. 371.
*Rôle of Carbohydrate Haptens in Bacterial Anaphylaxis. J. Tomcsik and T. J. Kurotchkin, Peking.—p. 379.
Inactivation of Vaccine Virus and Action of Certain Substances on Infecting Power of Inactivated Virus. F. D. Reynals, New York.—p. 389.
*Mechanism of Nucleinate-Induced Leukopenic and Leukocytic States: Relative Rôles of Liver, Spleen and Bone Marrow. C. A. Doan, L. G. Zerfas, S. Warren and O. Ames, New York.—p. 403.
*Allergic Irritability: IV. Capacity of Guinea-Pigs to Produce Antibodies as Affected by Inheritance and as Related to Familial Resistance to Tuberculosis. P. A. Lewis and D. Loomis, Princeton, N. J.—p. 437.
Ulcerative Types as Determined by Inheritance and as Related to Natural Resistance Against Tuberculosis: Experimental Study on Inbred Guinea-Pigs. P. A. Lewis and D. Loomis, Princeton, N. J.—p. 449.
Antigenic Complex of Streptococcus Hemolyticus: II. Chemical and Immunologic Properties of Protein Fractions. R. C. Lancefield, New York.—p. 469.
Id.: III. Chemical and Immunologic Properties of Species-Specific substance. R. C. Lancefield, New York.—p. 481.

Rôle of Carbohydrates in Bacterial Anaphylaxis.—Experiments described by Tomcsik and Kurotchkin show that small amounts of protein-free haptin obtained from *B. lactis-aerogenes* will produce anaphylactic shock, both in vivo and in vitro, in guinea-pigs which have been passively sensitized with immune serum from rabbits injected with dead cultures of the same organism. In the same way, haptins from the pneumobacillus and from a yeast caused typical shock in animals sensitized by the appropriate immune serums. The authors feel that the results obtained support the view that precipitins and complement-fixing bodies are closely related to the bodies which have to do with sensitization, if not identical with them.

Mechanism of Leukopenic States.—It has been determined by Doan et al. that the leukopenia is not the result of a vasomotor phenomenon or of a change in blood volume, nor is it secondary to a retention of the white cells in the capillaries of lung or liver; it is due to the accumulation of neutrophilic leukocytes in the parenchyma of the spleen. That the spleen is solely responsible for the temporary depression of white cells in the general circulation under these conditions has been shown by splenectomy. In splenectomized rabbits no leukopenia developed, but instead there was a leukocytosis due to a direct action of the bone marrow. A profound change occurs in the distribution of the cells in the circulation at the moment of death. The liver, within a minute of the cessation of the circulation, shows a three to fourfold increase in the number of white cells per cubic millimeter, the differential count remaining unchanged. Thus, estimations of the physiologic distribution and redistribution of cells in the living state may be made only with the circulation unimpaired.

Allergic Irritability.—Five families of strictly inbred guinea-pigs whose general resistance to experimental tuberculosis had previously been determined were studied by Lewis and Loomis with reference to the characteristics of the local lesion produced by intracutaneous inoculation with the tubercle bacillus. It was found that there are clearly recognizable familial types based on the size and quality of the nodular lesion, the ulcerative lesion consecutive to this and the general effectiveness of the healing process when in evidence. These observations are said to agree very well with the older conception of an inherited, predisposing, constitutional diathesis as a significant factor in the incidence of tuberculosis.

Journal of Infectious Diseases, Chicago

42: 93-178 (Feb.) 1928

Microbic Dissociation: I. B. Subtilis. M. H. Soule, Ann Arbor, Mich.—p. 93.
Skin Reactions with Bacterial Filtrates of Anhemolytic Streptococcus, Hemolytic Streptococcus and B. Typhosus. K. M. Howell and M. Corrigan, Chicago.—p. 149.
*Bacterium Melaninogenicum from Normal and Pathologic Tissues. K. L. Burdon, St. Louis.—p. 161.
Quantitative Estimation of Casein Hydrolysis by Clostridium Botulinum. G. M. Dack and W. L. Wood, Chicago.—p. 172.
Toxin Production and Proteolytic Activity of Clostridium Botulinum in Peptone and Peptone Egg White Medium. G. M. Dack, W. L. Wood and S. A. Dehler, Chicago.—p. 176.

Bacterium Melaninogenicum.—*Bacterium melaninogenicum* was first described by Oliver and Wherry in 1921. Burdon has studied it further. The organism constantly inhabits healthy mucous membranes but takes a prominent part in various pathologic processes, especially of the chronic or subacute type, about the mouth, throat, lungs and genitalia. The organisms probably act as secondary invaders and do not necessarily have any primary etiologic significance, but in many cases of lung abscess, pyorrhea alveolaris and puerperal infection they occur in such large numbers that they must constitute an important bacterial factor in these diseases.

New England Journal of Medicine, Boston

198: 61-116 (March 1) 1928

Fractures of Odontoid Process. R. B. Osgood and C. C. Lund, Boston.—p. 61.
Diphtheria Deaths in Massachusetts, 1926. E. A. Lane and F. C. Forsbeck, Boston.—p. 73.
Reticulo-Endothelial System. C. P. Rhoads, Boston.—p. 76.
*New Traction Finger Splint. R. B. Davidoff, Boston.—p. 79.
Uterine Malpositions. G. S. Foster, Manchester, N. H.—p. 81.
Physician of Future. G. S. Emerson, Fitzwilliam, N. H.—p. 89.

New Traction Finger Splint.—For the treatment of fractures of the phalanges of the fingers, Davidoff has constructed a splint employing the principle of the Thomas traction splint. Its use has proved satisfactory in a limited number of cases. It has certain obvious advantages in that it is readily constructed; it is not cumbersome; it is easily and quickly applied and, most important, of course, it exerts traction in an efficient manner. The traction is under constant control, and when the patient is instructed at the time of the application of the splint as to the amount of traction desired, he can thereafter maintain that degree of tension by means of a turnbuckle adjustment, thereby compensating for any slip or stretch of the adhesive traction straps.

New York State J. Medicine, New York

28: 243-302 (March 1) 1928

Need of Legislation Bearing on Expert Testimony. L. P. Stryker, New York.—p. 243.
Legal Standards for Ergot and Its Fluid Extract. H. H. Rusby, New York.—p. 255.
*Causal Factors in Surgical Mortality of Exophthalmic Goiter. J. de Pemberton, Rochester, Minn.—p. 256.
Nervous Child. F. H. Richardson, New York.—p. 261.
*Simplified Method of Oral Cholecystography. L. Levyn and A. H. Aaron, Buffalo.—p. 264.

Mortality of Exophthalmic Goiter.—Among 1,069 cases of exophthalmic goiter in which 1,099 operations were performed there were six deaths, a mortality rate of 0.56 per cent. In 421 cases of adenomatous goiter with hyperthyroidism there were four deaths, a mortality rate of 0.95 per cent. There was only one fatality in 368 cases of adenomatous goiter without hyperthyroidism, a mortality rate of 0.27. The potential factors in the surgical mortality of exophthalmic goiter are divided into three groups by Pemberton: (1) accidents, often the result of technical error; (2) acute postoperation crises of exophthalmic goiter, and (3) the debility of the patient, most frequently the result of long continued hyperthyroidism. The early postoperative care of the patient should, for the most part, be symptomatic. Iodine is given as a routine. If the patient is a bad risk, it is administered in large doses, from 40 to 60 minims (2.5 to 3.8 cc.), in the belief that it may influence the postoperative reaction. Dependence should not be placed on the heavy postoperative administration alone, as the patient may die as a result. Postoperative administration of the iodine is necessary in addition to the preoperative administration; it is not a substitute. It is given in doses of 10 minims (0.6 cc.) a day for from two to three months following the operation.

Technic of Oral Cholecystography.—Experiments were made by Levyn and Aaron and a method devised based on the theory that the free acid of tetraiodo in a finely divided state is transformed by the duodenal contents into a soluble salt which is absorbable and will produce cholecystograms. Adding fruit juice to the dye precipitates the free acid and renders it available for absorption. Grape juice was selected as the most suitable because its color completely disguises that of the dye, the mixture being scarcely altered in appearance from the original color of the grape juice. The tartaric acid in the grape juice is more than sufficient to change the disodium salt to the free acid. Three grams of the dye are dissolved in 1 ounce (30 cc.) of water. The resulting solution is emptied into an ordinary drinking glass, which is then filled to the top with grape juice. The mixture is stirred and ready for use. In order to stabilize the suspension so that it could be put up in individual doses, kept indefinitely and yet form when administered a freshly precipitated free acid, the authors make an aqueous solution of the disodium salt of tetraiodo to which is added enough malic acid to combine exactly with one half of the sodium present. It is presumed that this treatment breaks up the unstable disodium salt into the stable monosodium salt and sodium malate, thereby preventing decomposition. Each dose of the suspension contains 3 Gm. of the dye, which uniform dosage is used in all cases regardless of the weight of the patients.

Oklahoma State M. Association Journal, Muskogee

21: 27-50 (Feb.) 1928

Present Status of Liver Function Tests. W. Langston, Oklahoma City.—p. 27.
Physical Therapy in Medicine. E. Margo, Oklahoma City.—p. 30.
Rural Obstetrics. E. T. Robinson, Cleveland, Okla.—p. 32.
Anatomy and Pathology of Maxillary Sinus. E. F. Davis, Oklahoma City.—p. 34.
Experience in Cataract Extraction. H. Moulton, Fort Smith, Ark.—p. 36.

Physical Therapeutics, Baltimore

46: 59-94 (Feb.) 1928

Relation of Chemist and Physicist to Actinotherapy. F. H. Humphris, London.—p. 59.
Photosensitization. F. de Courmelles, Paris.—p. 64.
Thymus Cases Suitable for Roentgen-Ray Treatment. L. T. Le Wald, New York.—p. 68.
Epistaxis. H. G. Wahlig, Sea Cliff, N. Y.—p. 69.
Tonsils: Electrodesiccation. W. T. Power, New York.—p. 70.
Cavernous Hemangioma of Face: Tuberculous Cervical Adenitis: Hodgkin's Disease, Twelve Years After Treatment with Roentgen Ray and Radium. G. A. Robinson, New York.—p. 71.
Case of Chronic Arthritis of Shoulder Joint with Muscular Atrophy. H. M. Herring, New York.—p. 74.
Postoperative Ankylosis of Shoulder: Physical Therapy. A. Rieger, New York.—p. 75.
Penetrating Ulcer of Stomach: Colitis: Ultraviolet Radiation. L. H. Levy, New York.—p. 76.
Pulmonary Tuberculosis: Ultraviolet Radiation. C. Lopez de Victoria, New York.—p. 78.
Demonstration of Effective Ultraviolet Radiation of Skin. H. Goodman, New York.—p. 79.
Large Basal Cell Epithelioma Involving Entire Right Side of Nose, Part of Nasal Cartilage, and Part of Cheek Removed by Endotherm Knife Followed by Roentgen-Ray Therapy. J. J. Eller, New York.—p. 83.

Public Health Reports, Washington, D. C.

43: 259-311 (Feb. 3) 1928

Tularemia Among Meadow Mice in California. J. C. Perry, Washington, D. C.—p. 260.

43: 375-447 (Feb. 17) 1928

Electron Equilibriums in Biologic Systems: I. Method for Continuous Measurement of Electrical Potential in Living Cells. C. Voegtlin and F. De Eds, Washington, D. C.—p. 380.
Infant Mortality from Different Causes and at Different Ages in Nine Cities of United States. S. D. Collins, Washington, D. C.—p. 392.

43: 449-495 (Feb. 24) 1928

Trachoma in State's Health Program. P. D. Mossman, Washington, D. C.—p. 449.

Texas State Journal of Medicine, Fort Worth

23: 633-704 (Feb.) 1928

Menaces to Public Health. W. B. Russ, San Antonio.—p. 644.
Venereal Disease. T. J. McCamant, El Paso.—p. 647.
Community Health. A. H. Flickwir, Houston.—p. 649.
Aid in Visualizing Public Health. C. E. Durham, Austin.—p. 651.
Sound Teeth and Sound Health for Children. L. A. Neil, El Paso.—p. 654.
*Foreign Bodies Within Eyeball. J. O. McReynolds, Dallas.—p. 656.
*Brain Abscesses in Children. E. H. Cary, Dallas.—p. 662.
Gradenigo Syndrome: Two Cases. P. Archer, Houston.—p. 666.
Acute Stenotic Laryngitis of Infectious Origin: Two Cases. A. N. Champion, San Antonio.—p. 669.
Common Colds. O. H. Judkins, San Antonio.—p. 670.
Osteochondritis Deformans Juvenalis. P. M. Keating, San Antonio.—p. 674.
*Chronic Spondylitis Deformans. R. P. O'Bannon, Fort Worth.—p. 677.
Economic Value in After-Treatment of Joint Injuries. W. B. Reeves, Greenville.—p. 679.
How Doctor Can Assist in Making Railroad More Efficient and Economic. W. G. Harris, Plano.—p. 681.

Foreign Bodies in Eyeball.—McReynolds reports fifteen cases, and emphasizes some important features pertaining to the localization, the extraction, and the final result in cases of exceedingly minute foreign bodies within the globe.

Brain Abscesses in Children.—Cary reports the case of a child, aged 16 months, who fell and jabbed a pencil into the right upper eyelid, beneath the supra-orbital ridge. The mother pulled out a piece of lead one-fourth inch long. The patient was taken to the physician who, on examination, pronounced it a superficial injury. On the third day the child was taken to another physician, and on the fifth day the wound was opened and another piece of lead removed. One week later a piece of wood was removed from the wound. About one month after the injury, the baby had two convulsive seizures, preceded by vomiting. A roentgen-ray examination from the anteroposterior and lateral views of the skull disclosed a small area of decreased density suggesting a perforation about one-fourth inch in diameter in the upper inner edge of the right bony orbit. No other abnormalities were visible. Under slight anesthetic, an opening was made beneath the supra-orbital ridge through the upper lid of the right eye. The wound was probed and a considerable amount of pus came out. The probe was carried through an opening in the calvarium into the brain cavity for 2½ inches. As long as drainage was maintained the child did fairly well, but when drainage was inadequate or stopped, the child's condition became worse. Finally, a very large cavity developed in the right hemisphere of the brain. It contained seropurulent material. The abscess in the frontal lobe had ruptured into the lateral ventricle. In throwing a light into the cavity, one had the impression that all of the brain substance beneath the cortex of the parietal lobe had broken down and

drained away. The surprising fact was that although the child previously had had convulsive seizures when drainage had become blocked, there had never been any evidence of paralysis. The motor tracts apparently had held the cortex in place and the muscular innervation had remained intact. Culture from the brain showed a pure growth of *Staphylococcus aureus*. The child died about three months after it was injured. The autopsy report is given.

Roentgenotherapy of Chronic Spondylitis Deformans.—The treatment given by O'Bannon in the three cases reported consisted of the administration of one-fourth erythema dose of roentgen rays, 0.5 mm. of copper and 1.0 mm. of aluminum filtration being used at a 50 cm. target skin distance directed over the seat of the pain. It was usually administered at intervals of from ten days to two weeks. The beneficial effect of the roentgen rays is augmented by the application of diathermy following the roentgen-ray treatment, administered by using a small electrode about 2½ by 4 inches over the spine posteriorly and a large electrode about 8 inches square over the abdomen, the heat being administered to the point of tolerance of the patient. The result in two of the cases was practically complete relief. The third patient has been enabled to return to work.

U. S. Veterans' Bur. Med. Bulletin, Washington, D. C.

4: 203-294 (March) 1928

*Diagnosis of Intestinal Tuberculosis. H. B. Williams and L. U. Gardner, Sunmount, N. Y.—p. 203.
Routine Eye Examinations. DeF. Ballou, Jr., Washington, D. C.—p. 207.
Bronchial Asthma. M. Pollak, Duarte, Calif.—p. 214.
*Bronchial Asthma and Pulmonary Tuberculosis: Etiology. J. T. Malone, Whipple, Ariz.—p. 222.
Tularemia. A. J. Campbell, Fort Lyon, Colo.—p. 228.
Spinal Fluid Pressure in Psychotic. M. L. Underwood, American Lake, Wash.—p. 232.
Competitive Athletics in Treatment of Mental Cases. J. E. Davis, Perry Point, Md.—p. 243.
*Improved Method for Staining of Tubercle Bacillus and Other Acid-Fast Organisms. E. S. Moss, Oteen, N. C.—p. 247.
Ancient Grecian, Etruscan and Roman Dentistry. R. L. Denson, Legion, Texas.—p. 251.
Primary Carcinoma of Lung. H. D. Brewster, Oteen, N. C.—p. 259.
Calcification of Pericardium. C. O. Reed, Albuquerque, N. M.—p. 263.
Influence of Nurse on Spirit of Hospital. T. E. Pedersen, Washington, D. C.—p. 278.
Nurse in Admitting Ward of Hospital for Care of Tuberculous. M. C. Alexander, Rutland Heights, Mass.—p. 280.
Farm Work for Mental Cases. U. G. Iles, Augusta, Ga.—p. 282.

Diagnosis of Intestinal Tuberculosis.—Of the 300 patients studied by Williams and Gardner with the roentgen ray, 283 proved to be suffering from pulmonary tuberculosis; the remaining seventeen nontuberculous persons have served as controls to the method of examination. Of the 283 tuberculous cases, thirty-nine, or 13.7 per cent, showed roentgenographic evidence of ulcerative colitis; 244, or 86.2 per cent, did not give any evidence of such involvement. The incidence of pulmonary cavity was also determined. Of the thirty-nine cases diagnosed as positive for intestinal tuberculosis, such cavities were detected by the roentgen ray in thirty-three cases (84.6 per cent). Of the 244 negative cases, pulmonary cavity was reported in only 50 per cent. The value of the roentgen-ray diagnosis of intestinal tuberculosis before clinical symptoms become manifest is stressed. Evidence is accumulating to confirm the belief of the writers in the efficacy of artificial heliotherapy in the treatment of intestinal tuberculosis, particularly in its incipient stage.

Bronchial Asthma and Pulmonary Tuberculosis. — In Malone's opinion, the etiologic rôle of pulmonary tuberculosis, in the production of an associated bronchial asthma, appears to be worthy of further investigation.

Staining Tubercle Bacilli.—Moss describes a formaldehyde fixation method of staining tubercle bacilli which is clean, rapid and economical. The specimen is fixed in solution of formaldehyde, U. S. P., for eight minutes, and stained with cold carbolfuchsin (Ziehl-Neelsen) for eight minutes. It is washed well, preferably in running water, between each step. Then it is stained with Gabbett's methylthionine chloride for two minutes, or, if preferred, decolorized in acid alcohol and counterstained with alkaline methylthionine chloride for thirty seconds.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

British Journal of Actinotherapy, London

2:205-224 (Feb.) 1928

Ultraviolet and Other Rays of Sunlight and Artificial Light Sources. L. Hill.—p. 206.
Vitamin D and Its Relation to Irradiation of Foodstuffs. I. M. Heilbron.—p. 210.
Comparison of A. C. Mercury Vapor Lamp with Some A. C. Arcs. T. C. Angus.—p. 216.

2: 225-244 (March) 1928

Advances in Actinotherapy. A. Eidinow.—p. 226.
Place of Actinotherapy in Public Health Work. H. S. Banks.—p. 230.
Stannington Sanatorium Vita Glass Pavilion. T. C. Hunter.—p. 234.

British Medical Journal, London

1: 293-334 (Feb. 25) 1928

*Chronic Muscular Rheumatism and Panniculitis. R. Stockman.—p. 293.
New Methods of Surgical Access to Brain. H. S. Souttar.—p. 295.
*Smallpox and Climate in England and Wales. L. Rogers.—p. 300.
*Ergot Poisoning Among Rye Bread Consumers. J. Robertson and H. T. Ashby.—p. 302.
Influence of Parturition on Insanity and Crime. A. L. McIlroy.—p. 303.
*Cholecystography by Oral Method Without Use of Capsules. H. Morris.—p. 305.
Operation of Eversion of Sac for Hydrocele. R. L. Spittel.—p. 305.
Method of Making Blood Film. F. Cock.—p. 306.
Edema of Upper Eyelids. J. Roberts.—p. 307.
Foreign Body in Bladder. H. D. Christie.—p. 307.
Three Perforations of Ileum Caused by Fish Bones. G. Armitage.—p. 307.
Supernumerary Thumbs. R. H. Mitchell.—p. 308.

Chronic Muscular Rheumatism and Panniculitis.—Stockman asserts that chronic rheumatic diseases are, generally speaking, of microbic origin, and can usually be traced back to a preceding attack of acute rheumatism, influenza, dysentery, or some other infection; hence they may be due to a considerable variety of germs. Whatever the original infection may have been, the basic pathologic change which is the cause of the symptoms and sufferings of the patient is in all cases the same, and consists in a low form of inflammation of the white fibrous tissues. Chronic rheumatism, then, is essentially a fibrositis of the locomotory system. The two commonest manifestations of fibrositis are chronic muscular rheumatism and panniculitis. The pathologic fibrous tissue differs from the healthy normal in being painful on pressure, in being very sensitive to irritation, in a tendency to contract, and in the fact that it can be dispersed by massage or absorbed by the vis medicatrix naturae. The treatment consists of a diet low in carbohydrates, of massage and of a large nightly dose of sodium salicylate.

Smallpox and Climate.—Observation has convinced Rogers that low absolute humidity favors and high humidity checks smallpox. A cold winter and spring are likely to result in an increase in smallpox.

Ergot Poisoning Among Rye Bread Consumers.—Robertson and Ashby were able to connect the consumption of rye bread with ergot poisoning. Rye is by far the most susceptible grain to infection by the parasitic fungus *Claviceps purpurea*. The average Jewish person consumes about one-half pound of rye bread daily, the flour of which contains 1 per cent of ergot. Now one-half pound of bread will contain from 5 to 6 ounces of flour, the rest being the water, which is added before baking; 5 ounces of flour equals 2,285 grains, of which 1 per cent is ergotized. Each person is thus consuming 22.85 grains of ergot daily. The ordinary medicinal dose of ergot, if the liquid extract of ergot is taken as a sample dose, is from 10 to 30 minims, which equals 10 to 30 grains. Thus each person is taking rather more than the average dose of ergot each day. The symptoms observed in these Jewish patients correspond very closely with those produced by chronic ergot poisoning. The foreign-born Jews, who have always eaten rye bread, are the most affected.

Cholecystography by Oral Method.—Morris mixes tetraiodophenolphthalein, 5 grains per 10 pounds of body weight, with white of egg before adding it to cooked cream of wheat

(about 4 ounces). The idea underlying this is to fix, or partially fix, the salt until it has passed through the pylorus. The method has been satisfactory.

Edinburgh Medical Journal

35: 101-164 (March) 1928

*Tuberculous Pericarditis as Sole Tuberculous Lesion in Old Man. J. M. Alston.—p. 101.
Use of Pyrford Frame for Treatment of Tuberculous Disease of Hip Joint. J. Anderson.—p. 107.
Tuberculous Spine with Psoas Abscess: Albee Operation. J. Anderson. —p. 107.
*Hemolytic Streptococci as Secondary Infectors in Pulmonary Tuberculosis: Relationship to Incidence of Hemoptysis and Hectic Fever. W. M. Cumming.—p. 108.
*Filtrability of Tubercle Bacillus. J. M. Alston.—p. 116.
Use of "Sanocrysin" in Tuberculosis. D. M. Lyon.—p. 125.
*Cerebrospinal Fluid in Diagnosis of Tuberculous Meningitis. D. Stewart. —p. 141.

Tuberculous Pericarditis.—The case reported by Alston presents the unusual features of an advanced tuberculous infection of the pericardium in a man, aged 70, of very fine physique, in whose body no other gross tuberculous lesion could be discovered. The patient gave a history of unusually good health, and stated that he had not had any illnesses previous to an attack of influenza about two months before his admission to the hospital. Since this illness he had suffered from breathlessness and a slight precordial pain which was increased on coughing. When the patient was examined on admission to the hospital, great dilatation of the heart was found; the heart sounds were feebly audible and auricular fibrillation developed later. The patient died eighteen days after admission. When the thorax was opened the pericardial sac was found to be entirely obliterated. The visceral and parietal layers of the pericardium were thickened and were covered by a hemorrhagic, fibrinous exudate which bound them firmly together. After these two layers had been separated, tubercles were found beneath the fibrinous exudate on the right and the left auricles posteriorly. The heart itself was enlarged. All other organs were negative to tuberculosis. Positive evidence of the time and route of infection was absent, but the view that the pericarditis was due to a secondary blood-spread infection from a small lesion, not discovered at autopsy, is considered the most likely explanation. No evidence was found pathologically of a cause predisposing the pericardium, in particular, to infection by tubercle bacilli.

Hemolytic Streptococci in Tuberculous Lungs.—Streptococci with all the characters of *Streptococcus hemolyticus* were isolated by Cumming from the sputum in twenty-two of 119 cases investigated. In eighty-nine of the remaining ninety-seven cases, a streptococcus was isolated which Cumming has termed *Streptococcus pseudohemolyticus*. This streptococcus resembles *S. hemolyticus* in many ways and is indistinguishable from it when grown on the surface of human blood agar, but it was possible to show by cultural and serologic methods and by quantitative estimation of hemolysin production that *S. pseudohemolyticus* may be distinguished from *S. hemolyticus* and *S. viridans*. Hemoptysis occurred three times as often among patients who had hemolytic streptococci in the sputum as among patients in whose sputum these organisms were absent. Hectic fever occurred twice as often among patients with hemolytic streptococci in the sputum. The occurrence of hemoptysis and hectic fever in the same patient was five times as common among the patients who had hemolytic streptococci in the sputum. Fifty-two per cent of the patients in whom *S. hemolyticus* could not be demonstrated in the sputum had neither hemoptysis nor hectic fever, while only 18 per cent of those with hemolytic streptococci in the sputum were free from both these symptoms. The mortality rate has been twice as high among those patients with *S. hemolyticus* in the sputum as among those in whose sputum this organism could not be demonstrated. Therefore, it may be stated that there is no evidence to show that the incidence of hemoptysis or hectic fever or the mortality are any greater when *S. pseudohemolyticus* is present in the sputum than when neither *S. hemolyticus* nor *S. pseudohemolyticus* is present.

Filtrability of Tubercle Bacillus.—Alston concludes from all the evidence at present available that the question of the filtrability of the tubercle bacillus is still debatable, and that the experiments which favor the theory of its filtrability must be repeated and amplified before a decision can be made.

Cerebrospinal Fluid in Tuberculous Meningitis.—The chemistry and cytology of the cerebrospinal fluid were determined by Stewart in a series of thirty cases of tuberculous meningitis. In every case the cell count was increased, and in twenty-five cases the total protein was also increased. The total concentration of sugar in the majority of the cases was diminished, and the chlorides, while varying greatly in amount, were in most cases within normal limits. In a series of forty-two cases of tuberculous meningitis, both the lumbar and the cistern fluids were examined bacteriologically. Tubercle bacilli were found in the cistern fluid in 100 per cent and in the lumbar fluid in 57 per cent of cases.

Journal of Mental Science, London

74: 1-202 (Jan.) 1928

Beattie Smith Lectures on Insanity for 1926. R. J. A. Berry.—p. 12.
Psychiatry and Report of Royal Commission. R. Langdon-Down.—p. 35.
Hallucinations and Sanity. M. J. Nolan.—p. 49.
*Bacterial Change in Mental Disorder: Coliform Group. F. H. Stewart. —p. 58.
*Investigation of Permeability of Brain Membranes in Cases of Mental Disorder. H. A. Strecker.—p. 73.
Toxicity of Medinal and Other Hypnotic Drugs: Preliminary Investigation. D. N. Hardcastle.—p. 81.
Surgical Emergencies in Psychiatry. G. W. B. James.—p. 83.
Series of Cases of Lethargic Encephalitis at Whittingham Mental Hospital. B. Reid.—p. 87.
*Cardiac Infarction: Two Cases. T. W. Davidson.—p. 92.
Classic Mental Symptoms Arising from Gross Bodily Disorders: Record of Five Cases. E. M. Creak.—p. 94.

Bacterial Flora of Colon in Mental Disorders.—Stewart asserts that *B. paracoli* or *B. coli-mutabile* are to be found in from 30 to 40 per cent of mental patients, and in 17 per cent of these patients the bacteria in question make up from 10 to 100 per cent of the coliform flora. Carriers of *B. paracoli* and *B. coli-mutabile* are at least four times more common among the insane than in the general community. Paracolon mutabile bacilli occur in all forms of insanity, but more frequently and abundantly in acute illness than in chronic. In some recurrent cases which have been studied closely, they are absent or few in number during intervals, increase rapidly at the onset of an attack, fluctuate with the symptoms, and disappear at convalescence; nevertheless, in one and the same patient they may be present in large numbers in one attack and absent in the next.

Permeability of Brain Membranes.—It has been found that in normal persons the ratio of the amount of bromide in the blood and cerebrospinal fluid is constant and independent of the amount given and the period of administration. Walter's bromide test is the one used to study the permeability quotient, conveniently expressed by the abbreviation P. Q. Walter's figures show that the normal permeability quotient is 3, the limits being 2.90 to 3.50. A low figure for the permeability quotient indicates that the permeability is increased and vice versa. Strecker used the test clinically. In twenty-two cases of general paralysis the permeability quotient was below the normal average in 82 per cent of the cases, although a few cases showed markedly decreased permeability. The average permeability quotient was distinctly low. In thirty cases of dementia praecox the permeability quotient was above the normal average in 36 per cent of the cases and below in 30 per cent, the remainder being normal. The average permeability quotient in five cases of delusional insanity and three cases of mania and manic-depressive insanity was normal.

Cardiac Infarction.—In one of the cases reported by Davidson there was no history of any illness or complaint by the patient to indicate coronary occlusion, yet extensive infarction had occurred. The infarct had undergone softening and had been replaced by fibrous tissue which had stretched, producing aneurysm of the heart. Extensive calcareous deposit had occurred later, and, judging from this, the patient must have carried on with an injured heart for

a considerable time, possibly years, until he presented signs of temporary heart failure, from which he apparently recovered, but which was followed by sudden death a month later. In the second case there were no marked signs of cardiac disease until the coronary occlusion occurred, when there was the sudden onset of acute pain over the heart, and dyspnea, vomiting and fever lasting ten days. There was apparent recovery for a period of four weeks, during which the patient was up and about. Meantime ischemic necrosis had occurred with protective pericardial adhesions—protective for four weeks until stretching of the infarct occurred, with bleeding into the softened tissue through to the pericardial sac along the line of adhesions, resulting in hemopericardium.

Lancet, London

1: 379-428 (Feb. 25) 1928

The Influences of Parturition on Insanity and Crime. A. L. McIlroy.—p. 379.
Status of Pathology. C. P. White.—p. 381.
*Bovine Type Tubercle Bacilli from Sputum in Pulmonary Tuberculosis: Five Cases. W. T. Munro.—p. 384.
Characters of Tubercle Bacilli from Four of Above Cases. A. S. Griffith.—p. 385.
Transpleural Exploration of Esophagus. W. H. C. Romanis and D. F. A. Neilson.—p. 386.
Epidemic Jaundice in Andaman Islands. H. C. Brown.—p. 388.
Treatment of Hyperpiesis. W. Bain.—p. 389.
Outbreak of Paratyphoid B Fever. I. V. I. Ward.—p. 389.
Early Tropical Elephantiasis Treated by Protein Shock. W. E. Cooke.—p. 390.
Acute Staphylococcal Pyemia. S. Deaner.—p. 391.

Bovine Type Tubercle Bacilli from Sputum in Pulmonary Tuberculosis.—Munro reports five cases in which the bovine type of tubercle bacilli was coughed up. Bovine type bacilli, and once both types, have been obtained in eight instances from the tracheobronchial glands of children who have died from tuberculosis in twenty cases which have been investigated. These bovine bacilli must have traversed the lungs before they reached the tracheobronchial glands, and in most instances there was plain evidence at the postmortem that the route of infection was by the abdominal glands. In only one patient were bacilli numerous, and this was the only patient who showed the usual picture of chronic adult pulmonary tuberculosis of the ulcerative type. Probably the infection and disease were caused by massive doses of bovine bacilli. In the other four cases bacilli were always scanty, and clinically the lesions were more like those of a root-spread tuberculosis. Experience suggests that there are two factors especially concerned in these bovine infections. One is that the bovine type is not so virulent to the human subject and in itself stimulates fibrosis, while the other lies in the allergic response of the host. This response is a proliferative one, particularly because the bovine type is not so destructive on an allergic terrain. If this reasoning is correct, then superinfection with the bovine type of bacillus leading to chronic ulcerative pulmonary tuberculosis is hardly possible unless the superinfecting dose is very large. That is to say, the allergy occasioned by a previous infection can protect against superinfection by the bovine type but breaks down before the human type of bacillus.

Medical Journal of Australia, Sydney

1: 197-224 (Feb. 18) 1928

*Calcium Deficiency as Cause of Certain Diseases of Animals and Man. C. E. Corlette.—p. 198.

Calcium Deficiency as Cause of Disease.—Corlette asserts that calcium and phosphorus deficiency can cause a nervous disorder closely resembling that produced by a deficiency of vitamin B. It is, or may be, implicated in many morbid conditions of man and animals in which nervous symptoms often occur. Among these are polyphagia, earth-eating (and "sand disease"), bone-chewing, coprophagia, "ergotisms," "lathyrinism," scrapie, or trotting disease of sheep, epizootic stringhalt, laminitis, rickets, osteomalacia, spasticity, paraplegia, tetany, milk fever and lactational dyspepsia of cattle and other animals, and stijfziekte and lamziekte of South African cattle. To these may be added some cases of supposed forage poisoning.

Annales de Médecine, Paris

23: 1-95 (Jan.) 1928

Vertebral Angioma Causing Medullary Compression. G. Guillain, J. Decourt and I. Bertrand.—p. 5.
Dick Reaction and Scarlet Fever. R. Debré, M. Lamy and H. Bonnet.—p. 22.
Spontaneous Resorption of Pleuritic Effusions in Course of Artificial Pneumothorax. E. Leuret and J. Caussimon.—p. 51.
*Takata-Ara Reaction of Cerebrospinal Fluid. S. Draganesco.—p. 74.
Volumetric Reactions of Heart. I. Mahaim.—p. 79.

Takata-Ara Reaction of Cerebrospinal Fluid.—The colloidal reaction of Takata-Ara in the metasyphilitic and in the meningitic type of case depends chiefly on the concentration of albumin present in the fluid examined. From his experience with the reaction in sixty-six cases, Draganesco concludes that it is not specific for metasyphilitic states.

Archives de Médecine des Enfants, Paris

31: 73-132 (Feb.) 1928

Acute Prolonged Adenoiditis; Treatment by Nasopharyngeal Applications. R. Rendu.—p. 73.
*Surgery of Sacral Sympathetic in Infancy. J. Salazar De Souza.—p. 86.
Hemiplegia and Syphilis in Infancy. V. Mikulowski.—p. 95.
Weil's Diesase. J. Comby.—p. 101.

Surgery of Sacral Sympathetic in Infants.—Souza prefers his operation of dieresis of the sacral sympathetic to Leriche's periarterial sympathectomy. The operation consists of detaching the rectum from its sacral attachments. In doing so, the sacral sympathetic fibers are destroyed. The method is facilitated by the injection of physiologic solution of sodium chloride into the presacral space. A parasacral incision for unilateral involvement and a transverse one for bilateral involvement are employed. Souza reports two personal observations, one in a boy, aged 2 years, who was afflicted with typical Raynaud's disease of both extremities, the other in a boy, aged 8 years, with typical erythromelalgia of the right extremity. Both operations were successful. The patient with erythromelalgia was free from all symptoms nine years after the operation. In the first case, the existing hypertonic flexion of the lower extremities was relieved by the operation, an observation of great interest since it is in accord with our present knowledge of the rôle of the sympathetic in muscle hypertonus.

Bulletins de la Société Médicale des Hôpitaux, Paris

44: 131-193 (Feb. 9) 1928. Partial Index

*Permanent Slow Pulse and Acute Nephritis with Hereditary Syphilis. A. Mougeot, E. Schulmann and A. Lemaire.—p. 131.
Ulcerative Endocarditis: Communication of Left Ventricle with Right Auricle. C. Achard and M. Hamburger.—p. 134.
Cancer of Lung. L. Babonneix, R. Huguenin and A. Widiez.—p. 138.
Tactile Phenomenon of Pulmonary Ballottement in Course of Pneumothorax. E. Rist and F. Hirschberg.—p. 142.

Permanent Slow Pulse and Acute Nephritis in a Patient with Hereditary Syphilis.—In a man with hereditary syphilis, there was a permanently slow pulse on account of dissociation. On the occasion of a tonsillitis, there was a syphilitic nephritis, cured by arsenical treatment, which also improved the slow pulse.

Journal de Médecine de Bordeaux et du Sud-Ouest

105: 89-132 (Feb. 10) 1928

*Hydatid Cyst of Douglas' Culdesac. Charrier and Gandy.—p. 91.
*Ablation of Malignant Tumors of Breast by Diathermy. Debédat and Bardon.—p. 93.
Tumor of Parotid Resembling Tonsil Structurally. A. Bonnard.—p. 95.
*Ulcer of Second Portion of Duodenum. Bousquet and Broustet.—p. 97.
Cortical Meningococcic Hemiplegia in the Course of Cerebrospinal Meningitis: Cure by Serotherapy. F. Bonnel.—p. 99.

Hydatid Cyst of Douglas' Culdesac.—Charrier and Gandy report the case of a woman, aged 27 years, who submitted to operation because of irregular, prolonged and frequent menstrual periods and abdominal pains. From dissection of the hydatid cyst removed, it seemed to have been inserted in Douglas' culdesac. It was apparently a primary pelvic hydatid cyst.

Ablation of Malignant Tumors of the Breast by Diathermy.—In two cases of malignant tumor of the mammary gland, Debédat and Bardon used a diathermic knife in the shape of

a sickle. In the second case, in which bands of adhesive plaster were used, cicatrization was complete in thirty days as compared with forty-two days in the first case, when silkworm-gut sutures were used.

Case of Ulcer of Second Portion of Duodenum.—The case reported by Bousquet and Broustet illustrates the difficulty of making a clinical diagnosis of ulcer of the duodenum. The patient, a woman, aged 49, had pain in the hypochondrium and frequent vomiting. There had been a three months' remission before the present attacks. These facts pointed toward duodenal ulcer, but might have been caused by a vesical calculus. In spite of medical treatment, the patient died in five days. Her bad general condition made surgical intervention impossible. Even when recognized, exeresis of an ulcer of the second portion of the duodenum is impossible, because it would entail removal of the pancreas and choledochus.

Journal des Praticiens, Paris

42: 81-96 (Feb. 11) 1928

*Gastric Syndromes with Primary Splenomegalies. N. Fiessinger.—p. 81.
Fracture of Thigh Caused by Metastasis of Mammary Cancer. Hartmann. —p. 87.
Treatment of Melancholic Conditions with Opiates. H. Mignon.—p. 87.

Gastric Syndromes with Primary Splenomegalies.—In the first case reported by Fiessinger, the patient, a woman, aged 56, had gastric pain and vomiting. After the removal of an enlarged spleen, the gastric symptoms disappeared. Another woman, aged 34, presented gastric pain, vomiting and hematemesis. A spleen analogous to that in Banti's fibro-adenia was removed and the patient's gastric symptoms disappeared. In two cases of Panti's disease, hematemesis was a prominent symptom.

Liége Médical

21: 195-221 (Feb. 12) 1928

*Carcinoma of Rectum and Pregnancy. L. Delrez.—p. 195.
Parathyroid Glands. F. Mathieu.—p. 196.

Carcinoma of Rectum and Pregnancy: Cure of Nine Years' Standing.—The case reported by Delrez is that of a woman, aged 30, six months pregnant and with a carcinoma of the rectal ampulla. A left iliac anus was made. On the fifteenth day after operation premature delivery occurred spontaneously. The child died the next day. About five weeks later, vaginosacral amputation of the rectum was performed and a sacral anus made. Sixteen months later there was a recurrence in the substance of the intestinal wall of the sacral anus. This was excised and was demonstrated by histologic examination to be an adenocarcinoma. At present, seven and a half years after the recurrence, the patient is well and shows no trace of further recurrence.

Paris Médical

64: 129-140 (Feb. 11) 1928

Heliotherapy and Tuberculosis. Hervé and Roussel.—p. 129.
*Intratracheal Injections for Bronchiectasis. G. Rosenthal.—p. 134.
Congenital Syphilis of Liver Diagnosed as Pulmonary Tuberculosis. V. Mikulowski.—p. 137.

Intratracheal Injections for Bronchiectasis.—Rosenthal recommends that the intratracheal injection be made with a cannula, which is inserted into the glottis at the first tracheal rings. The introduction of 22 cc. of balsam oil provokes a reflex of intolerance with a paroxysm of coughing, which accomplishes the cleansing of the bronchi. If a careful pharyngoglottic anesthesia is followed by a true intratracheal injection of an anesthetizing solution, then the medicinal injection performed after a ten minutes' rest period will produce no disagreeable reaction and the antiseptic action will be appreciable. The author uses emulsions of iodoform which he terms "iodoform mud" (50 and 25 per cent). This substance offers an aid to diagnosis (being opaque) and at the same time to treatment. In the most severe cases, tracheofistulization with the use of very small tracheotomy cannulas, through which balsam oil is injected, assures an almost absolute disinfection of the bronchial tree during the preoperative period.

Presse Médicale, Paris

36: 145-160 (Feb. 4) 1928

Some Methods of Localizing Cerebral Tumors: Sinusovenous Encephalography with Iodized Oil. J. A. Sicard and J. Haguenau.—p. 145.
*Pathogenesis and Treatment of Gastric Crisis in Tabes. G. Marinesco, O. Sager and H. Façon.—p. 150.

Pathogenesis and Treatment of Gastric Crisis in Tabes.—Eight patients with tabes examined by Marinesco et al. manifested a condition of sympathicotonia or hyperexcitability of the whole vegetative system between the gastric crises, and during the crises there was vagotonia. In the five cases examined the p_H was almost normal or inclined toward acidosis between crises, whereas during the crises the p_H was elevated and alkalosis accompanied the vagotonia. Some cause—often a faulty diet—produces in a tabetic a disturbance in acid-base equilibrium by determining a state of alkalotic vagotonia. Since in tabetics who have these crises the lesions are in the posterior roots of the fifth and tenth dorsal nerves, and since the parasympathetic nerve fibers pass by these roots, the vagotonic reaction will be referable to this region especially. The result will be an elevation of gastric tonus, an accentuation of peristaltic movements producing pain and the vomiting characteristic of the gastric crisis. The disturbance of acid-base equilibrium taken as the cause explains the sudden appearance and disappearance of the crisis. In treating the gastric crisis, the authors use intraspinal injections of from 1 to 2 cc. of a 25 per cent magnesium sulphate solution freshly prepared and perfectly sterilized. In the eight patients thus treated, pain and vomiting disappeared entirely within from thirty to fifty minutes after the injection. Some patients needed another injection after two or three days; in others the interval was lengthened to several months.

36: 177-192 (Feb. 11) 1928

Streptococci in Certain Complications of Scarlet Fever. P. Nobécourt, R. Martin and P. R. Bize.—p. 177.
Limitations of Asepsis. E. Marquis.—p. 180.
*Insulin Treatment of Menorrhagias of Ovarian Origin. G. Cotte.—p. 181.

Insulin Treatment of Menorrhagias of Ovarian Origin.—In treating menorrhagia of ovarian origin, Cotte begins on the fourth day of the menstrual period with 40 or 50 units of insulin, divided into two doses and given before meals. Administered for three or four days in succession, this treatment was successful in the four cases reported. He thinks it probable that insulin acts by regulating ovarian function.

Revue Française de Gynécologie et d'Obst., Paris

23: 1-64 (Jan.) 1928

Uteroplacental Apoplexy. J. Andérodias.—p. 1.
Technic in Colpoperineography. J. Guyot and J. Villar.—p. 12.
*Spinal Anesthesia in Treatment of Dilatation Anomalies. P. Balard and R. Mahon.—p. 19.

Spinal Anesthesia in Treatment of Dilatation Anomalies.—Balard and Mahon report twenty-two cases of anomalous dilatation treated by spinal anesthesia. In fifteen cases, the results were good, in two they were mediocre and in five they were nil or almost nil. This method is more rapid than metreurysis; it is more simple and less mutilating than extensive cervical incisions. It may be attempted after failure of metreurysis, and should the anesthesia itself fail, it may be considered only as preliminary to cervical incision. It does not exclude the use of manual dilation.

Annali Igiene, Rome

37: 809-900 (Dec.) 1927. Partial Index

*Biochemical Action of Colloids. A. Scala and N. Sette.—p. 809.

Biochemical Action of Colloids.—In rabbits all colloids, diphtheria toxin, typhoid vaccine and egg albumin, cause at first a beneficial stimulation. The effect, however, becomes harmful when injections are repeated frequently or if the dosage is large. Urinary changes suggest that the stimulation is based on a hydrolysis. The same changes occur after applying heat, roentgen rays or high frequency currents. In immunization the p_H of the injected colloid assumes considerable importance.

Clinica Pediatrica, Rome

9: 855-925 (Dec.) 1927

Etiology of Infantile Edema. G. de Simone.—p. 855.
*Skin Tests in Children. F. Demontis.—p. 874.
Tuberculin and Tuberculous Meningitis. M. Santi.—p. 898.
Paralysis Following Scarlet Fever. F. Colò.—p. 906.

Capillaroscopy in the Reading of Skin Reactions with Tuberculin and Diphtheria Toxin.—Capillaroscopy permits a better differentiation of positive and pseudopositive Schick reactions. It also enables one to follow the different stages of the Pirquet reaction.

Policlinico, Rome

35: 175-222 (Feb. 6) 1928. Practical Section

Fermentation by Pathogenic Bacteria. C. Gorini.—p. 175.
*Icterus with Signs of Multiple Sclerosis. R. Carusi.—p. 183.

Icterus Associated with Signs of Multiple Sclerosis.—In a patient, aged 47, there were symptoms of multiple sclerosis and of icterus. The gallbladder was not visible roentgenographically. The nervous symptoms began to subside as the icterus improved. The reflexes and eyeground remained normal throughout.

Rassegna Internazionale di Clinica e Terapia, Naples

8: 818-856 (Dec.) 1927

*Ambard's Constant. A. Orofino.—p. 818.

Ambard's Constant in Renal Disease.—From his study of sixty-eight cases, Orofino concludes that Ambard's constant permits of calculating not only the condition of the kidneys, but also their functional power in tuberculous conditions. If the values exceed certain limits, it is dangerous to perform a nephrectomy or prostatectomy. Of course, the constant deals only with one of the two functions of the kidney.

Revista de Medicina y Cirugia, Caracas

10: 207-229 (Dec.) 1927

*Cesarean Section. L. Razetti.—p. 208.

Cesarean Section in Venezuela.—Among 1,000 cases of labor at a Caracas hospital, there were only four cesarean sections. In the whole town the operation has so far been performed only eight times, the first time in 1907.

Semana Médica, Buenos Aires

35: 1-64 (Jan. 5) 1928

Myocarditis. T. Martini, M. Joselevich and G. M. Cordes.—p. 2.
Skin Induration in the New-Born. M. Acuña and P. Winocur.—p. 19.
Multiple Mammary Neuromas. C. A. Castaño and J. Llambias.—p. 22.
Parasites of Leptodactyl. L. A. Savazzini.—p. 24.
*Excretory Anuria. J. Salleras.—p. 28.
Intercurrent Eclampsia. A. J. Guiroy.—p. 30.
Ether Treatment of Whooping Cough. H. Magliano.—p. 32.
Blood in Tuberculosis. P. T. Panza and C. Ducco.—p. 33.
Mibelli's Porokeratosis. J. Pessano and G. Basombrio.—p. 35.
Spermatorrhea. F. E. Grimaldi and R. de Surra Canard.—p. 38.
Intrahernial Ileus. M. Malfatti.—p. 40.
Uses of Ultraviolet Therapy. V. H. Córdoba.—p. 41.
Bismuth in Leprosy. J. J. Puente and L. E. Pierini.—p. 52.
*Pleural Lavage in Pneumothorax Pleurisy. J. F. Mieres.—p. 53.
Polymastia. P. C. Plá.—p. 57.

Ureteral Catheterization in Anuria.—In four cases of excretory anuria, ureteral catheterization succeeded admirably. The method should always be tried before resorting to surgery.

Lavage in Purulent Pleurisy Following Artificial Pneumothorax.—In three cases of pleurisy secondary to artificial pneumothorax, irrigations with lime water acted favorably.

Archiv für Gynäkologie, Berlin

131: 425-712 (Jan. 2) 1928

Obstetrics in Ancient Egypt. I. Menascha.—p. 425.
*Carcinoma Problem: I. Antitryptic Index. H. Guthmann and L. Hess. —p. 462.
*Hydrogen Ion Concentration in the Blood in Pregnancy, Labor and Puerperium. A. Bock.—p. 468.
Analogous Germinal Epithelial Blastomas in Testis and Ovary; Their Occurrence in Human Hermaphrodism and Pseudohermaphrodism. H. O. Neumann.—p. 477.
*Rare Blastomas of Female Genital Organs. H. O. Neumann.—p. 574.
*Hydatid Cysts of Broad Ligament. W. J. Matschan.—p. 588.
Influence of Innervation on Ovary. L. Kraul.—p. 600.
Decidual Tissue. P. Geipel.—p. 650.
*Puerperal Endometritis from Retrograde Infection Through the Vein. H. Beck.—p. 701.

Antitryptic Index in Carcinoma.—On the average, Guthmann and Hess found the antitryptic content of the serum increased in carcinoma patients.

Hydrogen Ion Concentration in the Blood in Pregnancy, Labor and Puerperium.—Bock tested the hydrogen ion concentration of the blood by the electrometric method in forty-eight women. In the last weeks of pregnancy he found a slight shifting toward the acid side (p_H 7.47, normal 7.52). Earlier in pregnancy, during labor and in the puerperium the hydrogen ion concentration was normal.

Rare Blastomas of Female Genital Organs.—Neumann found nodules of suprarenal cortex tissue in the genital organs of a number of new-born infants and of a few older girls. He describes and presents photomicrographs of a bilateral ovarian tumor in a woman, aged 44. The nature of the tumor is doubtful, but he is inclined to the belief that it is a carcinoma with partial hypernephroid structure. A ganglioneurofibroma of the broad ligament, occurring in a girl, aged 14, is also described. The ganglion cells had almost no pointed processes and must, in Neumann's opinion, be termed paraganglion cells.

Hydatid Cysts of Broad Ligament.—Matschan reports a case of echinococcus in the broad ligament. Three cysts were present. The third, in the right ligament, was discovered six years after the removal of the first two (mother and daughter cysts) from the left side, but Matschan believes that it was probably present in an early stage at the time of the first operation. The echinococcus concerned belonged to the type that is found singly, and this case thus makes the tenth reported of isolated echinococcus of the broad ligament.

Puerperal Endometritis from Retrograde Infection Through the Vein.—Three days after a normal first delivery, Beck's patient had chills and a temperature of 40.8 C. An eclamptic attack occurred the next day and death followed. The microscopic and macroscopic changes found at necropsy showed subchronic phlebitis of the right ovarian vein. Apparently this process dated from an early period of pregnancy. Where the ovarian vein joined the renal vein, there was a thrombus, which must have arisen sometime before the birth. After delivery, on account of the slowing of the blood stream, this had developed so that it occluded the outlet into the renal vein, and the infection that had long been latent in it now suddenly flared up. The virulent streptococci entered the blood of the ovarian vein and, through the reversal of the current, were carried to the uterus, where they caused endometritis.

Beiträge zur Klinik der Tuberkulose, Berlin

68: 1-198 (Jan. 2) 1928

Reinfection in Tuberculosis. A. Albert.—p. 3.
Basal Metabolism in Pulmonary Tuberculosis. Anthony and H. L. Kowitz. —p. 18.
Principles of Lipoid Treatment of Tuberculosis. J. Schubert.—p. 28.
*Development of Pulmonary Tuberculosis. K. Nicol.—p. 61.
*Allergy and Immunity in Tuberculosis. O. Ziegler.—p. 89.
Apical Disease and Infraclavicular Infiltrates. W. Münchbach and K. Riemer.—p. 98.
The Doctrine of Stages and Allergy. F. Redeker.—p. 107.
Human Amebiasis in Temperate Zone and Its Connection with Tuberculosis. A. Gehrcke.—p. 123.
Pseudotubercle Bacilli Cultured from Disease Foci in Man. A. Haim and Kemal.—p. 128.
Section of Phrenic Nerve: Late Consequences and Justification as Independent Operation in Pulmonary Tuberculosis. Thomsen.—p. 134.
Maximal Cardiac Displacement in Chronic Pulmonary Tuberculosis in the Child. O. Wiese.—p. 143.
The Primary Lung Cavity in Tuberculosis in Children. K. Klare.—p. 156.
Mediastino-Diaphragmatic Pleuritis in Childhood. H. H. Knüsli.—p. 160.
Bilateral Pneumothorax and Oleothorax: Technic. K. Diehl.—p. 173.
*Tuberculosis with Congenital Syphilis. G. Baer.—p. 181.
Healing of Cavities in Secondary Stage of Tuberculosis. Harms and Klinckmann.—p. 187.

Development of Pulmonary Tuberculosis.—The thread that runs through the entire series of stages of pulmonary tuberculosis is, Nicol states, perifocal inflammation, which is the expression of a definite stage of allergy, the phase of hyper-

sensitiveness. It is found in the beginning and at the end, and on its further development the entire course of the tuberculosis depends. The exudative process thus comes to occupy the central place in the whole problem of tuberculosis. He conceives of allergy as the expression of the defensive response of the entire organism. Nonspecific components enter in, such as constitutional factors, vegetative influences and the individual reaction of the body to physical influences (sun's rays, time of year, etc.). Therapeutic measures also have their effect on determining the allergic phase. The lability of allergy, particularly the tendency to oscillations between the secondary (hypersensitive) and the tertiary (healing) allergy is of the greatest importance for the development of all the processes. The course of chronic pulmonary tuberculosis, with its exacerbations and remissions, illustrates well the backward and forward swinging of allergy, each phase determining the one that is to follow.

Allergy and Immunity in Tuberculosis.—In Ziegler's opinion, it is the degree of immunity, not allergy, that determines the character of the tuberculosis and the forms assumed in its course. What has been considered an inflammatory tendency of the tissue, dependent on allergy, can be nothing else than a flaring up of the hitherto suppressed inflammatory tendency of the tuberculous process, because of decrease of the inherited or acquired immunity. The relations between immunity, allergy and the course of the disease are illustrated by graphs. In the stage of inactivity, allergy sinks to a middle line, while immunity remains relatively high. In active stages, allergy and the disease process, on the one side, balance immunity, on the other; while the first two rise, the last sinks and vice versa, until the immunity either gains the upper hand or falls and finds itself unable to rise again, in which case the allergy also falls and death occurs. The allergy at any given time is determined by the relation between the degree of immunity and the progress of the disease process. Among civilized races the latter is seldom seen in its pure, malignant form. A certain degree of immunity, inherited or acquired early, exists, which prevents it from showing its true face. The conception of a malignant process, held in check more or less successfully by an immunity of unstable potency, which may at any time be shattered by external or internal influences (other infections, pregnancy, undernourishment or a sudden massive irruption of tubercle bacilli into the blood stream from anatomic changes in the tuberculous tissue) explains the variability in the course of this disease.

Tuberculosis with Congenital Syphilis.—Two cases of open pulmonary tuberculosis and one of hilus tuberculosis in children with congenital syphilis are detailed by Baer. Signs of syphilis of the lungs were absent. The course of the tuberculosis in the pulmonary cases was characterized by marked torpidity and pronounced tendency to calcification and cicatrization. Antisyphilitic treatment had an excellent effect on the tuberculosis in all these cases.

Deutsches Archiv für klinische Medizin, Leipzig

158: 129-256 (Jan.) 1928

Rate of Blood Flow in Arteries. M. Hochrein.—p. 129.
Pathologic Physiology of Secretion of Gastric Juice. P. Bonem and K. Eggert.—p. 136.
Importance of Reticulo-Endothelial System in Water Metabolism. O. Deicke.—p. 142.
Disturbances of Water Metabolism in Diseases of Pituitary Body. H. Marx.—p. 149.
Cholesterol and Cholesterol Ester in the Blood in Hepatic Disease. A. Adler and H. Lemmel.—p. 173.
Function of Blood Current in Hypertonia. F. Lange.—p. 214.
Ventricular Paroxysmal Tachycardia. E. Schliephake and W. Graubner.—p. 231.
Disturbances in Carbohydrate Metabolism. A. Elkeles and F. Heimann.—p. 238.

Cholesterol and Cholesterol Ester in the Blood in Hepatic Disease.—The behavior of cholesterol and its ester in the blood in various hepatic diseases from nonmechanical causes, as well as in the several stages of the same disease, suggests that the change in lipoid content depends on certain disturbances of fat absorption in the intestine. However, the results of investigation make a direct causal connection improbable. The decrease of cholesterol and its ester is to be regarded as expressing disturbances of the hepatic cells. Acute yellow atrophy of the liver shows greatly decreased cholesterol values, especially the ester values. As recovery begins, and in the subacute form, the values rise to normal. In subchronic hepatic atrophy there are elevated cholesterol values, which in acute exacerbation fall to subnormal.

Deutsche medizinische Wochenschrift, Berlin

54: 171-212 (Feb. 3) 1928. Partial Index

Active Protective Inoculation Against Diphtheria. R. Degkwitz.—p. 171.
Influence of Bodily Work on the Heart. K. Eimer.—p. 174.
Transplantation of Preserved Ovary. A. Lipschütz.—p. 177.
*Biologic Importance of Fibrin as Protective or Curative Remedy. S. Bergel.—p. 182.
*New Exercise Treatment in Infantile Paralysis. C. Hertzell.—p. 191.
*Prevention of Transmission of Contagious Diseases by the Stethoscope. Natannsen.—p. 192.

Use of Fibrin as Therapeutic Agent.—On the ground of his experimental data, anatomicopathologic observations and clinical experience, Bergel sought to utilize the healing qualities of fibrin in human therapy. He places it in a thick layer on the site of hemorrhage to hasten clotting. He uses it in bone fractures, when there is delayed callus formation or pseudarthrosis. In the latter instance, it is injected subperiosteally. Fibrin injections may be used where there is destruction and adhesion of tissues, and healing of scars is desired.

New Exercise Treatment in Infantile Paralysis.—Hertzell describes a tricycle which is of value in giving exercise to children who have been left with the sequelae of infantile paralysis.

Prevention of Transmission of Contagious Diseases by the Stethoscope.—To avoid the transmission of contagious diseases, an ordinary rubber finger stall may be slipped over the end of the stethoscope and destroyed after the examination. Natannsen has found that it does not interfere with auscultation.

Deutsche Zeitschrift für Chirurgie, Leipzig

208: 1-85 (Jan.) 1928

*Treatment of Renal Tuberculosis. A. Greifenstein and H. Kehl.—p. 1.
Animal Experiments with Sattler's Operative Methods for Gastric Ulcer of Man. W. J. Klug.—p. 33.
*Transplantation of Lymph Glands. W. Wachsmuth.—p. 41.
*Tumors of Vertebrae. H. Holm.—p. 46.
Effect on Circulation of Circumscribed Rise of Blood Pressure in Mediastinum. R. Nissen.—p. 59.

Renal Tuberculosis.—Forty-three nephrectomies for renal tuberculosis were performed at the surgical clinic of the university of Marburg between 1891 and 1923. A follow-up study was possible in forty-one cases and is here presented. Operative mortality was extended to a period of from one to six months. A second "danger period" of from one to three years included deaths caused by tuberculous complications. The operative mortality was thirteen. This high number was due to the primitive state of diagnosis and treatment of the earlier era. Histologic studies frequently showed bilateral tuberculous involvement of the kidneys, when the clinical proof was entirely lacking. The mode of infection of the second kidney is the same as that of the first, i. e., hematogenous. Infection by the urinary route can be admitted only in cases of advanced tuberculosis of the bladder. The follow-up study of nephrectomized patients reveals the fact that they remain tuberculous and succumb sooner or later to their tuberculosis. The prognosis appears to be more favorable in females. Genital tuberculosis in a man does not exert any greater influence on the prognosis than that of any other organ, provided it is not complicated by an active pulmonary tuberculosis. Of thirteen patients living, eight were entirely cured, four were improved and one was worse. Injury to the peritoneum in a nephrectomy on the right side rarely resulted in peritonitis. On the other hand, infection of the wound and fistula formation occurred in 17 per cent of their cases. The method of treatment of the ureteral stump did not seem to be of any importance in this connection. These fistulas healed, as a rule. Nonsurgical treatment of renal tuberculosis is not to be considered, although in rare cases cure is possible through complete destruction of the organ

in the absence of all symptoms. The authors report one such case of "autonephrectomy."

Transplantation of Lymph Glands.—Wachsmuth's experiments with autotransplantation of lymph glands leads him to conclude that their fate was exactly like that of testicular transplants. Microscopic examination of early transplants demonstrated central areas of necrosis. This was followed by cellular infiltration and connective tissue proliferation with complete disappearance of the glandular elements.

Tumors of the Vertebrae.—Holm reviews the literature of vertebral tumors, to which he adds an interesting case of chondroma of the cervical vertebrae cured by operation. His patient, a youth, aged 18, had tenderness over the cervical vertebrae and typical root and spinal cord compression symptoms. The roentgenogram showed a cloudy area in the region of the cervical spine, of a type considered by Fraenkel as characteristic for chondroma. The roentgenographic as well as the neurologic localization of the tumor was exact, that made by the aid of lipiodol injection was a little too high, probably in consequence of the accompanying local serous meningitis. The tumor was seen at operation to have arisen from the arches of the third and fourth cervical vertebrae and to have invaded the vertebral canal where it exerted pressure on the spinal cord. The tumor masses were removed radically. Complete functional restoration rapidly followed.

Klinische Wochenschrift, Berlin

7: 241-288 (Feb. 5) 1928. Partial Index

Immunization Procedures in Syphilis. H. Kroó and F. O. Schulze.—p. 246.
*Experiences with Scarlet Fever Antitoxic Serum. R. Cahn.—p. 248.
Serologic Diagnosis of Amyloid with Loeschcke's Leukocytic Extract Reaction. R. Steinert.—p. 251.
*Skin Reaction in Climatic Bubo. O. Fischer.—p. 255.

Experiences with Scarlet Fever Antitoxic Serum.—In cases of scarlet fever of medium severity treated with the scarlet fever antitoxic serum, the exanthem, especially in fully developed conditions, fades out more quickly than in untreated cases. The temperature frequently falls by crisis. The serum treatment causes no change in the sore throat. In general, scarlet fever serum is not capable of protecting against the second attack or against complications. In several cases in which it was given at the very beginning it seemed to influence the first symptoms of the disease in a striking manner and to prevent complications.

Skin Reaction in Climatic Bubo.—Fischer used Frei's reaction in the diagnosis of eleven cases of climatic bubo and found it satisfactory. The injected material may come from indigenous cases of inguinal lymphogranuloma or from patients who have developed a climatic bubo in other lands. This finding indicates that the disease pictures, similar pathologically and anatomically, are actually identical.

Monatsschrift f. Geburtshülfe u. Gynäkologie, Berlin

78: 1-158 (Jan.) 1928

The Physician and Science in Gynecology. R. T. von Jaschke.—p. 1.
Vegetative Nervous System in Normal and Pathologic Pregnancy. A. Hoffmann.—p. 15.
Vegetative Nervous System in Pregnancy. H. Schlossmann.—p. 24.
Reply to Above. N. Louros.—p. 28.
Blood Calcium of Mother and Child. A. Schönig.—p. 32.
Cantharides Reaction in Pregnancy. R. Spiegler.—p. 47.
Hydatid Mole in Twin Pregnancy. O. Gragert.—p. 53.
Placenta Praevia and Colpotomy. E. Martin.—p. 61.
*Vasomotor Phenomenon (Muck's) in Eclampsia. C. Seynsche.—p. 66.
Extraction of Adherent Placenta. G. Aschermann.—p. 75.
Cysts of Umbilical Cord. F. Heinrichsbauer and K. Spickhoff.—p. 84.
Blood Transfusion in Obstetrics and Gynecology. A. Sanders.—p. 98.
Baldwin's Operation for Forming Artificial Vagina. G. Gambarow.—p. 106.
Supravaginal Amputation or Total Hysterectomy for Myoma? D. von Ott.—p. 108.
*Lupus of Vulva. N. A. Lwow and M. M. Plotkina.—p. 113.
Influence of Plague on Genital Organs of Woman. S. G. Bykow.—p. 121.

A Vasomotor Phenomenon (Muck's) in Eclampsia.—Muck's test gave a negative reaction in all the cases of hyperemesis gravidarum examined by Seynsche, which agrees with the theory of sympathetic hyperexcitability as the cause of the vomiting. The reaction was positive in three of eight cases of eclampsism. A connection with the height of the blood pressure was not apparent. It was positive in six of ten cases of eclampsia. Here a connection with the blood pressure seemed to exist, the six patients with positive reaction all having blood pressure above 170 mm. of mercury. Further statistics show that not all pregnant women with positive reactions in the ninth month become eclamptic. The possibility of a transient sympathicotonus must also be reckoned with in using this test as a prognostic measure.

Lupus of the Vulva.—Lwow and Plotkina report a case of lupus of the vulva, of fifteen years' standing, which was first diagnosed as a syphilitic ulcer. It had appeared shortly after the first childbirth. Pain on urination and itching were complained of. The ulcer was excised and examined histologically. The patient had gonorrhea; no other etiologic factor for the lupus could be discovered.

Münchener medizinische Wochenschrift, Munich

75: 249-290 (Feb. 10) 1928

*Influence of Iodine on Milk Secretion. E. Maurer and H. Ducrue.—p. 249.
Diagnosis and Treatment of Over-Training. M. Brustmann and H. Hoske.—p. 251.
Incubation Time of Typhoid. M. Knorr.—p. 255.
Origin of Auscultatory Changes in the Author's Heart Reflex. J. S. Schwarzmann.—p. 256.
*Treatment of Abortion in General Practice. H. Ritzmann.—p. 257.
Substitution of Quadriceps for Foot Extensor. P. Bade.—p. 260.
*Case of Continuous Milk Secretion in a Man. H. Haenel.—p. 261.
Ovarian Dermoid with Twisted Pedicle in 15 Year Old Dystrophic Patient with Uterine Aplasia. N. Holtmann.—p. 263.
Lead and Arsenic Determinations in Wine After Treatment of Vine with Lead and Arsenic Preparations. H. Krieg.—p. 263.
Mumps as Serious Disease. H. E. Inhelder.—p. 264.
*Aid to Vision in Presbyopia. L. Drüner.—p. 264.

Influence of Iodine on Milk Secretion.—In order to ascertain whether a single large dose of iodine would affect the composition of breast milk, a wet nurse, after preliminary examinations on three days, was given a dose of 0.6 Gm. of potassium iodide. In the days following the iodide administration, there was marked increase of the normal iodine content of the milk and the body lost in this way in the first three days 68 mg. or about 15 per cent of the amount of iodine administered. On the fifth day, the iodine content had not yet fallen to normal. Even after an unusually high dose of iodine there is no more injurious influence on lactation than a decrease of the fat content in proportion to the amount of iodine administered.

Treatment of Abortion in General Practice.—The swiftest possible termination is the best course to follow in uncomplicated abortion, since it limits hemorrhage, mechanical injury by the hand and the danger of infection. The chief aim should be to awaken the pains. This may be done with the large blunt curet. In the removal of the placental remains, all scraping and scab formation on the mucosa must be avoided. Touching the inner surface of the uterus with the finger is unnecessary and injures the tissue by pressure and bruising, requires a larger opening, causes more severe pains and entails the danger of introducing organisms into the circulation. The use of Winter's abortion forceps is limited to cases in which there are still large masses in the uterine cavity which may be seized easily. The opening of the external os must be left to the activity of the labor pains. Only exceptionally, with severe hemorrhage and narrow orifice, may dilatation be undertaken. It is then done with metal dilators, because they make possible a one-stage procedure and may be made aseptic. General anesthesia should be avoided as much as possible, and is only rarely necessary for the purpose of dilating a stiff narrow cervix or when there is great sensitiveness.

Case of Continuous Milk Secretion in a Man.—In a man, aged 43 years, whose heredity was tainted, Haenel found certain secondary symptoms of hermaphrodism: falsetto voice, effeminate character, along with a continuous bilateral secretion of milk in the mammary glands, which had existed since his twenty-first year and which had continued undiminished in the four years since the loss of his sexual functions.

Aid to Vision in Presbyopia.—Presbyopia may be compensated by narrowing the pupil. A diaphragm of black paper

held close to the eye may be used for the purpose. Two triangles, with sides about 4 cm. long, are cut in the middle of two squares of black paper of equal size. If these are turned round on each other, four-cornered diaphragms of any desired narrowness are obtained.

Wiener klinische Wochenschrift, Vienna

41: 181-220 (Feb. 9) 1928. Partial Index

The Monthly Cycle and Its Hormonal Influence. H. Siegmund.—p. 185.
*Pathogenesis of Acute Cardiopulmonary Edema. S. Wassermann.—p. 190.
*Megaloblastic Blood Formation and the Liver. E. Schwarz.—p. 192.
Modification of Strauss-Wolff Rectoromanoscope. H. Schur.—p. 194.
Water Metabolism. H. Molitor.—p. 194.
Diagnostic Importance of Determination of Diastase in the Serum. H. L. Popper and A. Selinger.—p. 199.
Etiology, Prophylaxis and Serum Therapy of Infectious Diseases. R. Kraus.—p. 200.
Legal Determination of Safety in the Use of Roentgen Rays. G. Holzknecht.—p. 202.

Pathogenesis of Acute Cardiopulmonary Edema.—Because of the acute elevation of blood pressure and pulse frequency, Wassermann is convinced that in acute cardiopulmonary edema one is dealing with a paroxysmal reflex phenomenon in the region of the vegetative nervous system. In mixed syndromes of angina and dyspnea, the pain is scarcely ever influenced by vagal pressure, whereas the dyspnea nearly always is.

Megaloblastic Blood Formation and the Liver.—Megaloblastosis is the type of blood formation in the liverless period of embryonic life. Under the influence of a principle formed very early in the liver, it is supplanted and succeeded by normoblastosis. The morbid suppression of this principle brings the blood formation back to the original megaloblastic type. The supplying of this principle furnishes a basis for the liver treatment in pernicious anemia.

Zeitschrift für klinische Medizin, Berlin

107: 1-196 (Jan. 2) 1928

Electrolytic Equilibrium of the Blood: Influence of Central Nervous System. L. Condorelli.—p. 1.
Action of Scopolamine with Special Reference to Tonus. E. Blumenfeldt, Sager and H. Köhler.—p. 34.
Results of Chemical Analysis of Blood in Essential Hypertension. W. Loewenstein.—p. 52.
Rhodan Content of Serum and Cerebrospinal Fluid. R. Blum.—p. 61.
Insulin Hypoglycemia and Insulin Shock in Man. O. Klein and H. Holzer.—p. 94.
*Two Cases of Familial Hemochromatosis. H. Wegener.—p. 113.
Influence of Disturbed Thyroid Function on Work Metabolism. H. Bernhardt and H. Schlesener.—p. 133.
"Somatic" Cyclothymia or Cyclosomia. Pletnew.—p. 145.
*Influence of Ovaries on Blood Formation. H. Josam.—p. 151.
Content of Repeatedly Diluted Solutions or Triturations: Homeopathic Activation. K. Kötschau and A. Simon.—p. 162.
*Phosphorus Content of Serums in Renal Diseases. K. Grassheim and E. Lucas.—p. 172.
*Direct Action of Baths of Different Composition on Alkali Reserve and on Content of Gases of Blood in Arthritic Patients. M. S. Turkeltaub.—p. 181.

Two Cases of Familial Hemochromatosis.—Wegener reports two cases of bronze diabetes in which the disease, or the disposition to it, seemed to be congenital. The color of the skin varied between leaden gray and bronze color. Digestive disturbances appeared relatively early; an enlarged liver being recognized in the first patient at the age of 16 years, in the second at 32. In the first case there was diabetes at a very late stage; in the second, repeated examination of the urine did not reveal sugar. Abuse of alcohol is indicated as the cause of hemochromatosis. There is only one old and doubtful report of hemochromatosis in a woman. From the few data at hand, it seems that in this disease, with a normal supply of iron, too small an amount is excreted.

Influence of the Ovaries on Blood Formation.—Animal experiments undertaken by Josam show that removal of the ovaries from the body is followed by a considerable increase in the number of young erythrocytes in the peripheral blood. This increase is transitory and disappears with the postoperative leukocytosis or a little later. As a lasting effect of the castration, there is a slight hemoglobin impoverishment of the erythrocytes. At the beginning of pregnancy, there is frequently a fall in hemoglobin greater than the erythrocyte count would warrant. In the second half of pregnancy, there is a hyperchromia because of the appearance of the megalocytes. The injection of ovarian extract starts a general stimulation of the marrow to which all the myeloid forms respond. This seems to demonstrate the possibility of a hormonal influence of the ovary on hematopoiesis.

Phosphorus Content of Serum in Renal Diseases.—The amount of acid-soluble phosphorus in the serum of normal subjects is, on the average, from 2 to 3.5 mg. per hundred cubic centimeters; that of the organic, from 7 to 9 mg. per hundred cubic centimeters. There are seasonal fluctuations in the phosphorus content of the serum; during the hot months, when there is much sunshine, the inorganic phosphorus content is higher than in the winter. In estimating changes in the phosphorus content of the serum, not only the acid-soluble phosphorus but also the amount of organic phosphorus must be considered. The total amount should not exceed 12 mg. per hundred cubic centimeters. In renal diseases the increase may be of three types; increase of both organic and inorganic phosphorus, increase of organic with normal inorganic phosphorus, increase of inorganic with normal organic phosphorus. The relationship between phosphorus on the one side, and residual nitrogen, sodium chloride and calcium on the other side need not be constant. On the contrary, the phosphorus increase usually parallels the disturbance in function of the kidney. In renal diseases in which there are no important disturbances of function, as, for example, in focal nephritis and orthostatic albuminuria, there is no increase in the phosphorus content of the blood serum.

Direct Action of Baths of Different Composition on Alkali Reserve and on Content of Gases of Blood in Arthritic Patients.—From his investigations, the results of which are tabulated, Turkeltaub concludes that in the period of the clinically expressed "general bath reaction" the alkali reserve of the blood of arthritic patients is diminished and depends entirely on the intensity of the reaction of the organism. At the time of the disappearance of the reaction symptoms and of the beginning of clinical improvement, the alkali reserve of the blood increases. After the first ten minutes of the first full mud bath at 40 C., the oxygen and carbon dioxide contents of the venous blood of a patient with arthritis decrease and the alkali reserve increases. If the mud baths are repeated, there occurs in the blood of the same patient an increase in oxygen and a fall in carbon dioxide and the alkali reserve. After the first, as also in the case of repeated brine baths, there is a decrease of oxygen and increase of carbon dioxide and of the alkali reserve of the blood. In the application of brine-carbonic acid baths at 34 C. (pressure one atmosphere) the amount of oxygen in the blood is increased in the first ten minutes and the amount of carbon dioxide and the alkali reserve are decreased. During the mineral water bath at 38 C., the oxygen, carbon dioxide and alkali reserve increase in the first ten minutes. With the sun bath at 38 C., with complete exposure of the patient, the oxygen and carbon dioxide contents in the venous blood rise in the first ten minutes. With the application of a mud cast at 47 C. to both lower extremities, the oxygen content of the blood is raised within ten minutes; the carbon dioxide and the alkali reserve are reduced. In the application of local mud fomentations at from 42 to 47 C. on various small body surfaces, the oxygen, the carbon dioxide and the alkali reserve in the blood increase in the first ten minutes.

Zeitschrift für Kreislaufforschung, Dresden

20: 33-64 (Jan. 15) 1928

*Syphilitic Periarteritis Nodosa. M. Schmerling.—p. 34.

Vascular Syphilis Appearing Under the Form of Periarteritis Nodosa.—Schmerling's patient, aged 30 and syphilitic since the age of 17, entered the hospital with the symptom complex pathognomonic for periarteritis nodosa—chloritic marasmus, myositis and polyneuritis, pains in the stomach and intestines and phenomena of renal insufficiency. He died two weeks later. At necropsy diffuse periarteritis nodosa of the arteries of the heart and syphilitic changes

in the blood vessels in general were found. In the literature Schmerling found only two other cases of syphilitic periarteritis nodosa.

Zeitschrift für Tuberkulose, Leipzig

49: 321-400 (Jan.) 1928

Development of Pulmonary Anthracosis in Childhood. M. J. Madlener.—p. 321.
Prussian Legislation Regarding Tuberculosis. K. W. Jötten.—p. 331.
*The Phenomena of the Secondary Infraclavicular Complex. V. Hinze.—p. 342.
Early Differential Diagnosis Between Different Forms of Tuberculosis of the Hip. G. Haensel.—p. 345.
Separation of Pleural Leaves After Adhesion. G. Haensel.—p. 349.
Prognosis of Caverns. K. Kötter.—p. 350.
Blood Fibrin Globules in Pneumothorax Space. Sachs.—p. 354.
Importance of Pawlow's Researches for Tuberculosis Practice. F. Glaser.—p. 361.

The Phenomena of the Secondary Infraclavicular Complex.—The primary lesion of tuberculosis can be recognized only when there are added to it not only the regional pulmonary gland swelling, but also the broncho-adenitis of the affected side and the inflammatory infiltration of the apex above the primary complex. This combination Hinze terms the secondary complex. It can be recognized on percussion, but not always by the usual methods. Twice he was able to demarcate the primary focus distinctly and in one of these cases early cavitation followed within fourteen days. Collapse treatment was instituted at once in this case, with excellent results. He has never succeeded in discovering clinically the swelling of the regional pulmonary lymph glands. The broncho-adenitis on the diseased side can be determined easily by deep percussion. The glands are not always visible in the roentgenograms. The area of dullness that corresponds to the infiltration, more correctly induration, of the apex above the primary complex, when its contours are marked on the skin, is found to correspond to the apex, except that its base has the shape of a crescent with the horns pointing downward. The primary lesion with its sequelae is the only tuberculous condition in which he has ever been able to percuss the dome of the apex.

Zentralblatt für Chirurgie, Leipzig

55: 257-320 (Feb. 4) 1928. Partial Index

*Peptic Jejunal Ulcer After Gastric Resection. G. Nyström and F. Söderberg.—p. 258.
*Cause of Difficulty in Reduction of Ileocecal Intussusception. R. J. Harrenstein.—p. 263.

Occurrence of Peptic Jejunal Ulcer After Stomach Resection.—Peptic jejunal ulcer may develop even after a radical stomach resection. It has occurred most frequently when the primary disease was in the duodenum, with next greatest frequency after ulcers of the pyloric portion, and with least frequency when the ulceration was located elsewhere in the stomach. The authors cite a personal observation of a duodenal ulcer which required two subsequent operations for recurring peptic jejunal ulcer. After the second operation, free hydrochloric acid amounted to thirty-two, total acidity to sixty-five. After the last resection, the gastric chemistry was studied with the aid of Witzel's gastrostomy, performed for that purpose at the time of operation. Even then the acidity and pepsin amounts approximated the normal. The patient, however, examined one year later did not present further symptoms.

Cause of Difficulty in the Reduction of Ileocecal Intussusception.—Harrenstein comments on the well known tendency of the intussusceptum to persist in invaginating after reduction, thus giving rise to difficulties and frequently necessitating the dangerous procedure of bowel resection. This tendency, in his opinion, is the result of circulatory stasis involving the mesentery and causing swelling of the intestine, most pronounced in the apex of the intussusceptum. Clinically, however, this idea did not work out. In one case he was able to reduce an intussusception of three days' standing, whereas in a case of only nine hours' standing this was impossible. He, therefore, thinks that another factor exists and that this factor is to be found in the structural variation of the ileocecal valve. Investigations in fifty-seven new-born and young infants showed a wide variation in the relation of the length of the valvular edge to the width of the bowel. Expressed in percentages, these figures showed a variation of from 50 to 157. The narrower the valve, the greater is the danger of incarceration and strangulation of the intussusceptum. Ease of reduction in long standing cases is, in his opinion, due to the greater width of the ileocecal valve.

Klinicheskaya Meditsina, Moscow

6: 65-128 (Jan.) 1928. Partial Index

Gastric Acidity in Infancy. P. M. Scheimman.—p. 81.
Paralysis of Heart Due to Gastric Ulcer. E. E. Schirokogorov.—p. 90.
*Jarotsky's Diet in Peptic Ulcer. B. Akimov.—p. 95.
Method of Determination of Trypsin in Pancreatic Juice. B. Goldshtein.—p. 102.

Clinical Value of Jarotsky's Diet in Treatment of Peptic Ulcer.—Vagotonia is a concomitant phenomenon caused by tissue acidosis, rather than the cause of gastric ulcer, in the author's opinion. In the light of our knowledge of vagotonia, it seems that the therapeutic principle underlying treatment should be directed toward the maintenance of the alkalinity of the entire organism. Sippy's diet is a rational symptomatic therapy in so far as it aims to alkalinize the stomach contents. It does not, however, conform to theoretical physiologic concepts. The Pawlow school has established that milk has a highly stimulating effect on the gastric secretion and remains in the stomach for a long time in the form of casein curds. Akimov sees another objection to the Sippy regimen in the hourly feedings, which means that the stomach is practically never empty. The physiologic periodicity of the work of the digestive glands is likewise disregarded. These objections are absent in the Jarotsky dietetic regimen. Twenty-one patients were subjected to this diet with the following effect: five were completely cured, seven markedly improved, six improved, and three refractory. The three cases which proved refractory to treatment were characterized by striking hysterical, neurasthenic and neuropathic manifestations.

Bibliotek for Læger, Copenhagen

120: 1-44 (Jan.) 1928

*Experimental Rickets. P. Freudenthal.—p. 1.
Electrolytes of the Blood and the Vegetative System. H. Tómasson.—p. 14.

Experimental Rickets.—Histologic and chemical examination of the bones are of the greatest importance, according to Freudenthal, but were neglected in earlier experiments. He found that osteoporosis, rickets, and normal bone structure result from absence or subminimal amounts of vitamin A, from suboptimal amounts, and from optimal and sufficient amounts, respectively. In animals fed various quantities of vitamin A, but insufficient calcium or phosphorus, histologic examination and chemical analysis revealed pronounced rachitic changes. The real cure for rickets, he says, depends on the promotion of growth processes.

Hygiea, Stockholm

90: 1-48 (Jan. 15) 1928

*Significance of Infection in Neurology. H. Marcus.—p. 1.

Significance of Infection in Neurology.—Marcus reviews the history of leprosy, syphilis, tetanus, epidemic cerebrospinal meningitis, and acute poliomyelitis, their establishment as infectious diseases, and the evidence for infectious origin in progressive muscular atrophy and amyotrophic lateral sclerosis, multiple sclerosis, and other diseases. He speaks of the study of lethargic encephalitis with the consequent discovery of extrapyramidal symptoms and discusses other infections and inflammatory processes which give rise to nervous symptoms.

CORRECTION

The abstract published in THE JOURNAL, March 10, p. 802, titled "Rupture of Appendical Artery: Traumatic Appendicitis," which was credited to *Northwest Medicine*, really appeared in the *Ohio State Medical Journal* **24:**129 (Feb.) 1928. This is also true of all the other references in that group of titles.